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ABSTRACT

Teacher-pupil verbal behavior in the classroom was assessed to discover if any significant differences existed in the interactions of teachers toward Mexican American and Anglo students. Classrooms were observed in 52 rural, urban, and suburban schools in California, New Mexico, and Texas with a substantial enrollment of Mexican American students. Data from 429 English and social studies classrooms in grades 4, 8, 10, and 12 were analyzed using the Flanders Interaction Analysis system to code teacher-pupil interactions and 22 school, classroom, and teacher characteristics. The differences in the way the teacher interacted with students were measured by the disparities in the Anglo and Mexican American per pupil measures which were calculated for each type of behavior. The coding of the classroom interaction was done every 3 seconds for 10 minutes in each classroom by 5 observers. The observers also coded observed teacher and classroom characteristics, briefly interviewed the teacher, and made a seating chart of the location of each chair and the ethnicity of each occupant while in the classroom. Data were also collected as to whether each observed classroom was tracked and to what degree. Significant differences were found between Mexican American and Anglo students in terms of teacher praise or encouragement, acceptance or use of student ideas, questioning, positive response, all noncriticizing talk, and all student speaking. Related documents are ED 052 849, ED 056 821, and ED 062 069. (NQ)

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TEACHERS AND STUDENTS

REPORT V: MEXICAN AMERICAN EDUCATION STUDY

Differences in Teacher Interaction With Mexican American and Anglo Students

March 1973

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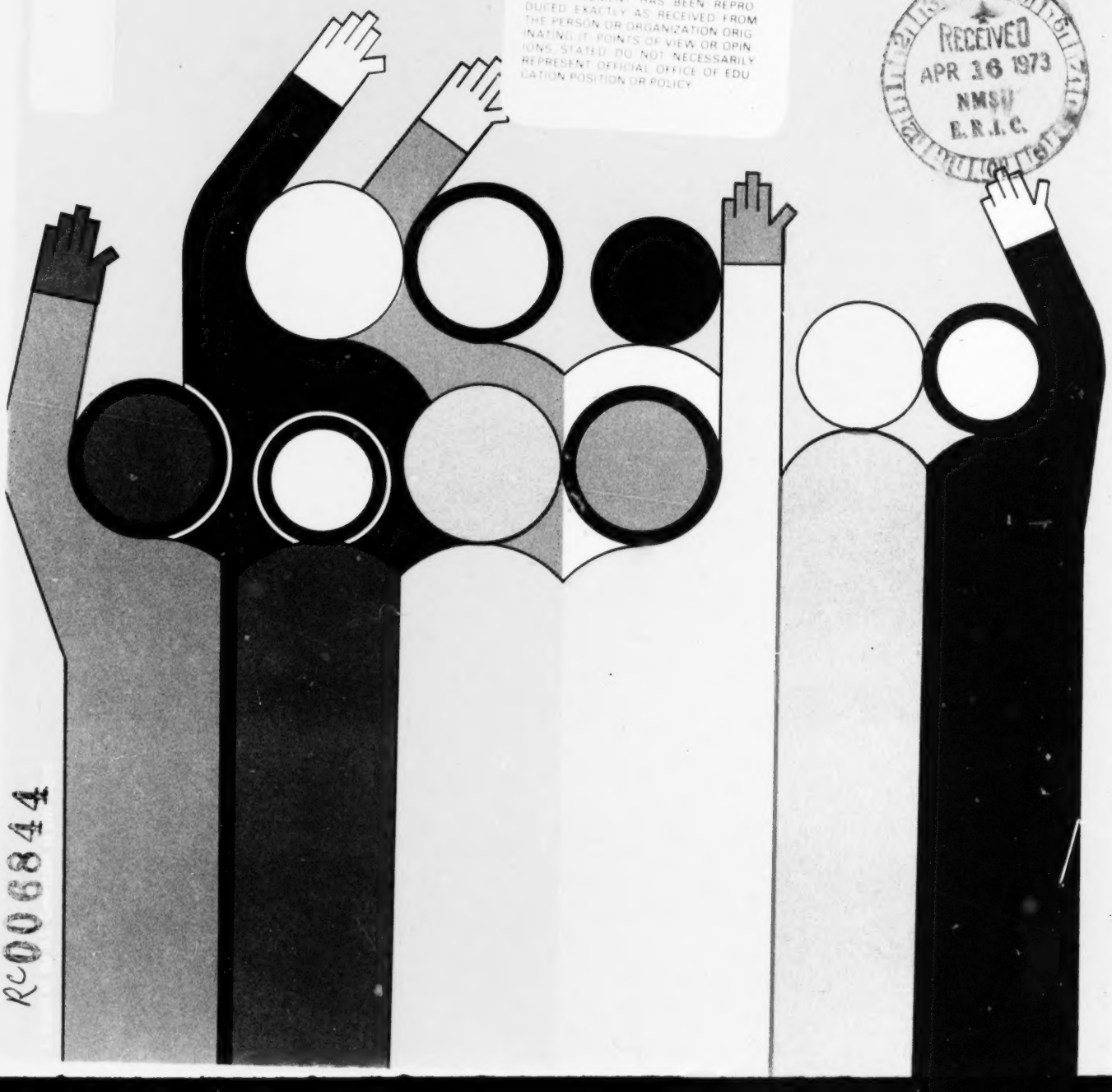

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TEACHERS AND STUDENTS

Differences in Teacher Interaction With Mexican American and Anglo Students

REPORT V: MEXICAN AMERICAN EDUCATION STUDY

A Report of the U.S. Commission on Civil Rights

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U.S. COMMISSION ON CIVIL RIGHTS

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Investigate complaints alleging that citizens are being deprived of their right to vote by reason of their race, color, religion, or national origin, or by reason of fraudulent practices;

Study and collect information concerning legal developments constituting a denial of equal protection of the laws under the Constitution;

Appraise Federal laws and policies with respect to equal protection of the laws;

Serve as a national clearinghouse for information in respect to denials of equal protection of the laws; and

Submit reports, findings, and recommendations to the President and the Congress.

Members of the Commission

Stephen Horn, *Vice Chairman*
Frankie M. Freeman
Maurice B. Mitchell
Robert S. Rankin
Manuel Ruiz, Jr.

John A. Buggs, *Staff Director*

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LETTER OF TRANSMITTAL

THE U.S. COMMISSION ON CIVIL RIGHTS
WASHINGTON, D.C.
March 1973

THE PRESIDENT
THE PRESIDENT OF THE SENATE
THE SPEAKER OF THE HOUSE OF REPRESENTATIVES

Sirs:

The Commission on Civil Rights presents to you this report pursuant to Public Law 85–315 as amended.

This is the fifth in the Commission's series of reports investigating barriers to equal educational opportunities for Mexican Americans in the public schools of the Southwest. It focuses on the denial of these opportunities as reflected in the differences in the classroom verbal interactions of teachers with Mexican American and Anglo children.

The Commission's findings are based upon information from actual observations and interviews obtained by its personnel in 429 classrooms of schools in three geographical areas of California New Mexico, and Texas.

The picture of verbal interaction that emerges in this report is one in which Mexican American students are neglected in comparison to Anglo students. The Commission found that teachers praise or encourage Anglo children considerably more often than Mexican Americans. They use and build upon the ideas of Anglo students much more frequently than those of Mexican Americans. Moreover, teachers direct questions to Mexican American students much less often than they do to Anglo students. In light of these findings, it is not at all surprising to also find that Mexican American children speak significantly less in the classroom than Anglo children.

The disparities in teacher interaction with Anglo and Mexican American children documented in this report are cause for serious concern. In essence they reflect the failure of the educational system to adequately adapt its programs to the needs of Mexican American students. In order to insure that no group of students is excluded from full participation, changes are needed both in preparing the individuals who will teach Mexican American students and in making the educational program more relevant to those students. We urge your consideration of the facts presented and the use of your good offices in helping to effect the changes necessary to enable all Americans to participate equally in the Nation's educational tradition.

Respectfully yours,

Stephen Horn, *Vice Chairman*
Frankie M. Freeman
Maurice B. Mitchell
Robert S. Rankin
Manuel Ruiz, Jr.

John A. Buggs, Staff Director

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From the beginning of the Mexican American Education Study the Commission staff has been counseled by an Advisory Committee composed of the following persons:

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PREFACE

This report is the fifth in a series on Mexican American[1] education in the Southwest by the U.S. Commission on Civil Rights. The series provides a comprehensive assessment of the educational opportunities available to Mexican Americans in the public schools of the Southwest. One of its principal objectives is to inform educators, parents, legislators, and community leaders of the policies and practices of schools attended by Mexican Americans and of the extent and quality of education received by Mexican American students.

This report focuses on teacher-pupil verbal behavior in the classroom. The study attempted to find out if there are important differences in the verbal interactions of teachers toward their Mexican American and Anglo[2] pupils.

Sources of Information

The information for the Mexican American Education Study is drawn from several sources. The principal sources are (1) the Commission's Spring 1969 mail survey of Mexican American Education in schools and districts throughout the five Southwestern States; (2) HEW's Fall 1968 elementary and secondary school survey of these States; and (3) the Commission's field study of schools in California, Texas, and New Mexico during the 1970–71 school year. The first four reports of the series were based primarily on data obtained from the HEW and the Commission mail surveys. This report is derived primarily from information gathered in the field.

Field study data reported in this volume consist mostly of the observations by Commission staff of teacher-pupil verbal interaction in the classroom. Interactions were coded on the Flanders Interaction Analysis form, an instrument especially designed to collect such information. Other information was obtained on teacher, classroom, and school characteristics associated with each observed classroom.

The field study staff received 4 days of intensive training. Observers, with the help of a trainer, first thoroughly familiarized themselves with the standard Flanders coding procedures, practiced coding with audio and video tapes of instructional sessions, and then utilized the instrument in regular classrooms. Periodically, the reliability of the observations of each of the trainees was checked to determine the degree to which their observations and those of the instructor were in agreement. By the end of the training period, the coders had reached a high level of reliability. In addition, at the beginning of data collection in each State,[3] the observers' reliability was checked by the trainer. In each instance it was high.

Publications

The results of the Mexican American Education Study are being published in a series of reports. Those previously published include:

Report I: Ethnic Isolation of Mexican Americans in the Public Schools of the Southwest—The extent to which Mexican American students are isolated from Anglo students by school is the main focus of this report. In addition, this study also documents the underrepresentation of Chicanos as teachers, principals, other administrative personnel, and school board members.

Report II: The Unfinished Education: Outcomes for Minorities in the Five Southwestern States—The second report analyzes the performance of schools in the Southwest in terms of outcomes of education for students of various ethnic backgrounds, as measured by school holding power,

[1] The term Mexican American refers to persons who were born in Mexico and now hold United States citizenship or whose parents or more remote ancestors immigrated to the United States from Mexico. It also refers to persons who trace their lineage to Hispanic or Indo-Hispanic forebears who resided within Spanish or Mexican American territory that is now part of the Southwestern United States.

Chicano is another term used to identify members of the Mexican American community in the Southwest. The term has in recent years gained wide acceptance among Mexican Americans especially the youth. It also receives wide currency in the mass media.

[2] The term Anglo refers to all white persons who are not Mexican American or members of other Spanish surnamed groups.

[3] Collection of data by the Commission staff started in New Mexico in October 1970; California was visited in November, and the staff finished in Texas in February 1971.

reading achievement, grade repetition, overageness, and participation in extracurricular activities.

Report III: The Excluded Student: Educational Practices Affecting Mexican Americans in the Southwest—This report examines the way the educational system looks at the unique linguistic and cultural background of the Mexican American student. It also examines programs used by some of the schools in attempting to adjust to this background and the school's relationship to the Mexican American community.

Report IV: Mexican American Education in Texas: A Function of Wealth—This report focuses on school finance in Texas as it affects the educational opportunity of Chicano students. It examines: (1) State aid to local school districts, particularly State apportionments granted under the Minimum Foundation Program; (2) property valuations upon which districts rely for locally raised revenue; (3) property tax efforts of school districts; and (4) the relative economic burden of property taxes on differing income groups. As a corollary to Report IV the Texas State Committee* to the U.S. Commission on Civil Rights issued a report in which it offered recommendations for school finance reform in Texas.

A forthcoming report will identify educational problems confronting Mexican Americans in the school systems of the Southwest and make recommendations concerning possible solutions.

INTRODUCTION

The Importance of Classroom Interaction

The heart of the educational process is in the interaction between teacher and student. It is through this interaction that the school system makes its major impact upon the child. The way the teacher interacts with the student is a major determinant of the quality of education the child receives.

Information on what actually happens in the classroom is thus very important in assessing the quality of educational opportunity. Some of the most significant aspects of the teaching-learning process can be identified only by observing the actual classroom interaction. The teachers' skills in instructing, guiding, and encouraging students are demonstrated by what the teacher does and says in the classroom. The extent to which students are being actively involved in the learning process is shown by their participation in the classroom activities. The way teachers and students feel about each other is evidenced in the way teacher and students react to one another.

Numerous other factors play a role in the educational experience of a child. Factors such as the quality of school facilities, the types of textbooks, and the training and experience of teachers affect the quality of schooling because they provide the setting for learning. But educational opportunity is primarily affected by what goes on in the classroom. For example, additional training on the part of the teacher will not necessarily affect the skills of the teacher; however, if the training improves the way the teacher interacts with students in the classroom, then the quality of schooling is improved.

The effects of classroom interaction have been omitted from the major studies on the equality of educational opportunity afforded to minority students. The most comprehensive of these studies is the 1966 U.S. Office of Education study entitled *Equality of Educational Opportunity*.[4] This national survey collected extensive data on the facilities, services, and curriculum of the

[4] James S. Coleman, *et. al., Equality of Educational Opportunity*, U.S. Department of Health, Education, and Welfare, Office of Education, Washington: U.S. Government Printing Office, 1966.

school, on the social, personal, and educational characteristics of the school personnel, and on the academic achievement, attitudes, and home background of students. However, neither the U.S. Office of Education Study nor similar studies have assessed what actually goes on in the classroom.[5]

Equality of Educational Opportunity found that differences in student achievement from one school to another were not strongly related to those characteristics of schools and school personnel which were measured. Of all the factors assessed in that study, the differences in achievement were most strongly related to the student's own social and economic background. Some educators and laymen have interpreted these findings to mean that there is not much the schools can do to improve the educational achievement of minority students. However, because the U.S. Office of Education study did not assess actual classroom processes it cannot validly be concluded from its findings that the quality of schools can have little influence on student achievement.[6]

This report focuses on differences in the way teachers interact with Mexican American and Anglo students in the classroom. Comparisons are made of several types of verbal teacher behaviors, such as praising and questioning of students. In addition, the verbal participation of Anglo students is compared with that of Mexican Americans.

The record of educational achievement shows that Mexican Americans in the Southwestern United States are not receiving the benefits of a public education to the same extent as are Anglo pupils. A previous report in this series, entitled *The Unfinished Education,* showed that fully 40 percent of the Chicano students in the Southwest never complete high school; in contrast only 15 percent of all Anglo pupils in the region fail to complete their schooling. The proportion of Chicano students reading below grade level is generally twice that of Anglos. Of those Chicanos who do complete high school, two out of three read below their grade level and one out of four is unable to read above the ninth grade level. This report examines one important aspect of the process of educational neglect, the way teachers relate to the two groups of students in the classroom.

Systematic Observation and Evaluation of Classroom Behavior

The assessment of the quality of the classroom teaching process is a complex matter. The teacher comes to the classroom with a given set of attitudes, expectations, skills, and goals. The teacher seeks to instruct, guide, and encourage between 20 to 40 students, each of whom, in turn, comes to the classroom with his or her own individual attitudes, expectations, skills, and goals. A multitude of different types of exchanges occur between teacher and students and among students during a normal class session.

Traditionally, the assessment of teaching has been conducted primarily on a subjective, or even intuitive, basis by occasional visits from principals or professors. In the last two decades a more objective approach to observing and evaluating teaching has been developed, known as interaction analysis. Interaction analysis involves systemally observing of classroom behavior and relating this behavior to characteristics of teachers, students, and schools, or to the achievement levels of students. Classroom observation is conducted by coding the behavior of teachers and students according to a system of categories designed with a specific orientation or focus. This information is then systematically compiled to obtain a picture of the actual teaching-learning processes.

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[5] For a comprehensive review of the major studies until 1969 see James Guthrie, *et. al., Schools and Inequality,* Cambridge: M.I.T. Press, 1971, ch. 4. Three major studies since then are: George Mayeske, *A Study of Our Nation's Schools—A Working Paper,* U.S. Department of Health, Education, and Welfare, Office of Education, Washington: U.S. Government Printing Office, 1971; Frederick Mosteller and Daniel Moynihan, eds., *On the Equality of Education,* New York: Vintage Books, 1972; Christopher Jencks et. al. *Schools and Inequality,* New York: Basic Books, 1972.

[6] A second reason why the conclusion that schools can have little influence on student achievement is not supported by the findings of the U.S. Office of Education study is that only existing conditions in schools were assessed. It is not possible to know the potential impact on minority student achievement of future changes in school conditions and characteristics of school personnel.

One of the most widely used classroom interaction observation systems is that developed by Dr. Ned Flanders. The Commission chose the Flanders system of Interaction Analysis because this system focuses on forms of teacher behavior which are most directly related to encouraging and involving the student in the learning process. The Flanders system codes the predominant classroom behavior once every three seconds according to the most appropriate of the following 10 categories: 1) teacher accepts student's feelings; 2) teacher praises student; 3) teacher accepts or uses student's ideas; 4) teacher asks a question; 5) teacher lectures; 6) teacher gives student directions; 7) teacher criticizes student; 8) student speaks in response to teacher's questions or directions; 9) student speaks on his own initiative; 10) no one is speaking or confusion prevails.[7]

On the basis of a decade of classroom interaction research, some forms of teaching behavior have been identified which appear to have a positive affect on pupil attitudes and achievement. They are behaviors which involve the acceptance and use of student ideas, some forms of praise or expression of appreciation of a student's contribution, and behaviors which involve questioning of students. These forms of behavior do not invariably increase student achievement or favorably affect attitudes, but the evidence suggests that they generally do.[8]

For example, one study found that the students who showed the greatest improvement on standardized tests of verbal and quantitative skills were in classrooms where the teachers used a great deal of praise and encouragement and accepted and used the students' ideas.[9] A second study found that teacher trainees who frequently accepted or used their students' ideas were more effective in teaching specific course content than teacher trainees who did not.[10] In another study the frequency of teacher questioning was found to be positively related to the amount of student learning in vocabulary, reading, and mathematical skills.[11] Numerous other studies have found similar effects.[12]

Assessment of Teacher Behavior with Students of Different Ethnic Groups

Classroom interaction analysis can be used to determine how patterns of classroom behaviors vary with different types of teachers and students. Classroom interaction patterns can be studied in relationship to teacher characteristics, such as age, sex, and training, and student characteristics, such as age, ability, and social class background. Despite the large number of such studies there is a paucity of research investigating teacher-pupil interactions among students of different ethnic groups. Only three studies with this focus have come to the attention of the Commission. None involved Mexican Americans. Furthermore, no broad generalizations

[7] Edmund J. Amidon and Ned A. Flanders, *The Role of the Teacher in the Classroom: A Manual For Understanding and Improving Teachers' Classroom Behavior*, Minneapolis: Paul S. Amidon Associates, 1963, pp. 6-11.

[8] Barak, Rosenshine, "Teaching Behavior Related to Pupil Achievement, Review of Research," *Research into Classroom Processes: Recent Developments and Next Steps*, ed. Ian Westbury and Arno Bellack, New York: Teachers College Press, 1971, pp. 66-98. Rosenshine reviews a series of studies and draws conclusions from the relative frequency with which different findings are replicated. He qualifies his conclusions because about half the studies do not show significant positive effects for the behaviors mentioned in the above text, although very few show significant negative effects. His qualifications are probably more restrictive than justified by the pattern of results. This is because for inferences to be validly based directly on the frequency of a given statistically significant finding across replicated studies, the studies must have approximately equivalent probabilities of finding significant results when they actually exist (statistical power). Rosenshine does not indicate that this is so, and it is quite likely it was not the case. Some of the studies with non-significant results probably had such low statistical power that they had little chance of indicating significant differences except where there were huge differences in the sample.

[9] Betty Morrison, *The Relations of Internal and External Children to Patterns of Teacher Behavior*. Unpublished doctoral dissertation, University of Michigan, 1966.

[10] Jimmie Fortune, *A Study of the Generalities of Presenting Behaviors in Teaching*, Project Report to U.S. Office of Education, Memphis: Memphis State University, 1967.

[11] Norman Wallens, *Relationships Between Teacher Characteristics and Student Behavior: Part 3*, Project Report No. 2628 to U.S. Office of Education, Salt Lake City: University of Utah, 1963.

[12] Ned A. Flanders, *Analyzing Teaching Behavior*, Menlo Park, California: Addison-Wesley Publishing Company, 1970, pp. 389-425.

can be made from the results of these three studies because they were limited to very small geographic areas and all were conducted in segregated school systems.[13]

The Commission's study was designed to investigate possible disparities in the way teachers treat Mexican Americans and Anglos within the same classroom. Although the main focus of the study was on Mexican American and Anglo students, it was also intended to compare the interaction of teachers with black and other minority students to the extent possible. However, the number of students of these ethnic groups which were observed was too small for analysis.

The ability of the teacher to involve and encourage students is important to the educational achievement of all students, but is particularly crucial to the education of minority students. As the Commission has previously pointed out, schools in the Southwest have generally failed to adapt their curriculums and programs to the interest, skills, and language with which Mexican American students enter school.[14] This failure is a serious barrier to the educational opportunity of Chicano pupils. Despite this barrier, there is much that teachers can do to facilitate the learning of Chicano students. Teachers can demonstrate respect by inviting the students to share their culture, personal feelings, and values. They can encourage Chicano participation by accepting and building upon their contributions. Teachers can also provide Mexican American students with the necessary assistance to help them overcome difficulties. These forms of behavior are likely to improve motivation and raise the level of academic performance of Mexican American students.

When the teacher treats one group of students more favorably than another, the damage done to the child of the second group is twofold. If the teacher seldom praises and encourages the Chicano student, for example, this is likely to lower his motivation and hinder his academic performance. If, at the same time, the Chicano student is aware that the teacher expresses much more praise and encouragement toward Anglo students, he or she will come to feel that the teacher does not like him or does not consider his education to be important. This will further impair his motivation and achievement. Consequently, whenever teachers relate more favorably toward Anglo students than to Mexican American students in the classroom, the differential treatment can be extremely harmful to the education of the Chicano student.

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[13] See Evan Powell and William White, *Learning Climate Correlates in Black and White Rural Schools*, Athens: R&D Center in Education Stimulation, University of Georgia, 1970; Jere Brophy and Thomas Good, *Dyadic Teacher-Child Interaction: Variations Across Social Class and Racial Groups*, Paper presented to 1971 American Educational Association Annual Meeting, New York: The Meeting, 1971; Bruce Biddle and Marvin Loflin, *Verbal Behavior in Black-Ghetto and White-Suburban Classrooms*, An Overview Paper presented to 1971 American Educational Research Association Annual Meeting, New York: The Meeting, 1971.

[14] U.S. Commission on Civil Rights, *The Excluded Student*, Washington: U.S. Government Printing Office, 1972.

CHAPTER I: DATA COLLECTION AND ANALYSIS

A. Description of Flanders Interaction Analysis Categories

Of the 10 categories of verbal behavior utilized in the Flanders Interaction Analysis System, seven involve "Teacher Talk," two involve "Student Talk", and one involves silence and confusion. The category system is totally inclusive of all possible events. This means that all classroom behavior can be classified in one of the 10 categories. A definition of each of the 10 categories and a detailed explanation to help the reader distinguish among them follows.[15]

TEACHER TALK

1. **Accepts Feelings**
   Category 1 consists of teacher behavior which accepts or clarifies the expressed feelings of the students in a nonthreatening manner, whether the feelings are positive or negative.

[15] Definitions and explanations for each of the categories are adapted from Edmund J. Amidon and Ned A. Flanders, *op. cit.*, pp. 6-21.

Statements that predict or recall feelings are included. Statements classified as Category 1 do not express teacher evaluation or approval. Thus, in response to a student's statement that he did not like arithmetic, the teacher might say "I know what you mean, John."

2. **Praises or Encourages**
   Praise and encouragement are statements which carry the value judgment of approval of student action or behavior. Examples of Category 2 statements are: "That was very well done, Martin, keep up the good work", or simply: "I like what you are doing, Linda". One word statements such as "right", "good", are included. Also encompassed in this category are jokes that release tension, provided they are not at the expense of another individual.

3. **Accepts or Uses Ideas of Student**
   Category 3 consists of statements which clarify, build, or develop student ideas or suggestions. When the teacher paraphrases, restates, or summarizes something a student has said, it is considered this type of interaction. In addition, this category also includes simple acknowledgements of a student's contribution such as: "Well, that's an interesting point of view. I see what you mean."

4. **Asks Questions**
   Questions asked by the teacher with the intent that a student will answer comprise this category. Questions not intended to be answered by the students, such as rhetorical questions or those meant to give directions, are not included in this category. Thus, a question such as: "What is the capital of Ohio?" is coded in this category, whereas the statement: "Tom, will you please close the door?" is not.

5. **Lecture**
   Category 5 consists of statements in which the teacher gives facts, opinions, or ideas about content or procedure. These can be brief information-giving statements, as well as extended explanations or discussions on the part of the teacher. Rhetorical questions are included within this category.

6. **Giving Directions**
   Talk by the teacher which directs, orders, or commands the student to comply is coded in Category 6. Examples of this behavior are statements such as: "Class, will you take out your workbooks now?" and "For tomorrow, I want you to answer the questions in Lesson 6". Whenever extensive directions are interspersed with the giving of information (Category 5), the appropriate category is used for each statement. For example, if the teacher begins by giving the students directions on the next day's assignment and in the process gives factual information on the content of the lesson, both Category 6 and Category 5 are coded.

7. **Criticizing or Justifying Authority**
   Statements of criticism are those which are designed to change student behavior from nonacceptable to acceptable. A statement such as: "I don't like the way you have been doing your work. Do it another way." is considered criticism. Statements justifying authority are those in which the teacher is stating why he is doing what he is doing or defending himself against the student. An example of such a statement is: "You can't do that now because I say so and I'm the teacher".

STUDENT TALK

8. **Student Talk—Response**
   Category 8 consists of verbal behavior of students in direct response to a statement by the teacher. This type of "student talk" generally follows directly from questions or directions of the teacher and does not involve contributions initiated by the student.

9. **Student Talk—Initiation**
   Student statements which are initiated by the student rather than by the teacher comprise this category. In general, when a student raises his hand to make a statement or to

ask a question when he is not prompted by the teacher, his subsequent speaking falls into this category. Also included is talk by the student when he volunteers additional information or elaboration after a direct response to a question by the teacher. In this situation the student's direct response would be classified as a Category 8 statement, while the further elaboration would be classified as a Category 9 statement.

OTHER BEHAVIOR

10. Silence or Confusion
This category includes all behavior not included in the other categories. Periods of silence or confusion in communication, when it is difficult to determine who is talking, are classified in this category.

B. Modification of Flanders Interaction Analysis System to Specify Ethnicity

Previous research using the Flanders system has been conducted almost exclusively on a whole class basis, i.e., no distinction was made between the interaction of the teacher with individual class members and with the class as a whole. Because the Commission sought to compare teacher interaction with students of different ethnic groups, the Flanders system was modified so that each behavior was coded with reference to the ethnicity of the student with whom it was associated. Provision was made for coding each communication event according to whether it involved an individual Mexican American, Anglo, black, a student of another ethnic background, several students simultaneously, or all of the class.[16] A copy of the sheet used to code the classroom behavior is presented in Figure 1. Once every three seconds the observer marked a tally in the box which most appropriately indicated (1) the behavior that was occurring (rows 1-10 indicate Flanders categories 1-10) and (2) the ethnicity of the student with whom it was associated (columns marked MA, A, B, O, and C refer to Mexican American, Anglo, Black, Other, and class as a whole, respectively.)

Figure 1

Modified Flanders Interaction Form *

School and District Code No.		Date
Access No.	Classroom No.	
District Name	Grade	Period
School Name	Subject	
Teacher Name	Ability group level	
Observer's Initials		

	MA	A	B	O	C	TOTAL
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

* Behavior was coded according to the type of interaction and according to the ethnicity of the student involved. Rows 1-10 indicate the 10 categories of the Flanders Interaction Analysis System. Column headings MA, A, B, O, C indicate Mexican American, Anglo, Black, Other, and Class as a whole respectively. The form is shown in reduced size.

[16] When two or more students were speaking simultaneously in a formalized manner, such as in classroom recitation, or if the teacher was speaking to two or more students at once, such as when addressing the total class, the behavior was coded under "C" as being associated with the class as a whole.

C. Training of Classroom Observers

Five Commission staff members received intensive training in the use of the modified Flanders Interaction Analysis System. The training sessions consisted of 2 days of practice and preparation with the use of videotape recordings of classroom interaction and 2 days of practice in live classroom settings.[17] In order to assure consistency and validity of the data, the coding of each observer was checked for reliability at the conclusion of the training session and at the beginning of the observations in each of the three States.[18]

D. The Sample

Classroom observation was conducted in schools in California, New Mexico, and Texas.[19] Within each State, geographical areas were selected that included rural, urban, and suburban schools in which large numbers of Mexican American students were enrolled.[20] From these areas a sample of schools was drawn to be representative of the schools attended by most Mexican Americans in the geographic regions.[21] However, a number of schools had to be eliminated because they were being or about to be investigated by Federal Civil Rights Agencies and, consequently, expected to be unreceptive to classroom observation. Because of the large number of schools excluded from the sample on this basis, the sample probably does not adequately represent those schools where there are likely to be the greatest disparities in teacher behaviors toward Mexican American and Anglo students.[22]

Fifty-two schools were randomly sampled from the eligible schools in the selected regions. Four hundred and ninety-four classes in which English was being taught at fourth, eighth, 10th, and 12th grades were observed.[23] Interaction data which were adequate for analysis were available from 429 of the visited classrooms.[24]

E. Data Collection

Teachers were notified beforehand that their classrooms were to be observed by staff members of the U.S. Commission on Civil Rights. They were told that the information was to be used for a study of classroom interaction although the exact nature and purpose of the study was not disclosed.[25] The Commission observer generally sat on the side or in the back of the room for ap-

[17] The training sessions were conducted by Dr. Monroe K. Rowland and Dr. James Retson of the Department of Education at San Diego State College.

[18] A discussion of the procedures used to check for observer reliability and of possible sources of bias is found in Appendix E, which begins on p. 59.

[19] Under ideal circumstances, the Commission would have made a random sample of schools throughout the Southwest. However, to use existing resources most effectively, it was decided to limit the sample area to the three States with the largest Chicano populations: California, Texas, and New Mexico. These States contain 60 percent of the Spanish origin students in the United States and about 90 percent of the total number in the Southwest.

[20] The areas selected were:

1. California: Santa Clara County including the city of San Jose.
2. Texas: the metropolitan areas of San Antonio and Corpus Christi, the area between these two population centers, and the area 30 miles south of Corpus Christi.
3. New Mexico: the Albuquerque area and the south central part of the State near El Paso, Texas.

[21] The details of the sampling procedures are indicated in Appendix A, which begins on p. 45.

[22] One hundred and ninety-four schools of the original 968 were eliminated for this reason. All of these were in Texas.

[23] In a few cases social studies classes were substituted for English classes. This was done when the school had an ungraded English program or did not require students to take English at the grade level sampled. About 7 percent of the classrooms were social studies classes.

[24] The major cause of inadequate data was the failure of some classrooms to have at least one Mexican American and at least one Anglo student; this was a prerequisite for the types of analysis used in the study.

[25] It is likely that the presence of observers had some effect on the behaviors of teachers and students, although the extent of this effect is not known. It is expected that under observation, teachers were, in general, more likely to try to draw students out and less likely to criticize them. This would tend to increase the frequency of occurrence of certain types of teacher behaviors while reducing others. If this were the only effect of the presence of observers it would not affect the *difference* in teacher interaction with Mexican American and Anglo students. However, because teachers were aware that the observers were from the U.S. Commission on Civil Rights, it is likely that they tended to relate more positively to the Mexican American students than they would do under normal circumstances. If this were so, the Commission's estimates of the differences in teacher interaction with the two groups of students are actually conservative, i.e., the differences which exist under normal circumstances would be greater than those found by the Commission.

proximately 1 hour. For a 10-minute period the observer coded the classroom behavior at 3-second intervals according to the modified Flanders category system.[26] The remainder of the time was spent observing other aspects of the classroom teacher and students.

F. Data Preparation

The Commission sought to determine if there was differential treatment in the manner in which teachers interacted with Chicano and Anglo pupils in the classroom.[27] In order to do this, it was necessary to obtain a measure of the occurrence of each type of interaction for each ethnic group, adjusted for the number of students of each of the groups in a given classroom. In other words, it was not sufficient to compare the number of times during the 10-minute observation period that the teacher interacted with Chicano and Anglo students without knowing the number of Chicano and Anglo students in the classroom. For this purpose, a "per pupil measure" was calculated for each type of behavior to represent the number of times the average student of each of the two ethnic groups was involved in a specified interaction.

Per pupil measures of each behavior were obtained for Anglo and Mexican American students using the following procedure: The number of times each behavior occurred for Mexican Americans was divided by the number of Mexican Americans in the classroom and a similar calculation was made for the Anglo pupils. The difference in the way the teacher interacts with Anglo and Chicano pupils is measured by the disparities in the Anglo and Chicano per pupil measures.

The sections which follow discuss the Commission's findings with regard to the differences in the types and quantity of teacher interaction with Anglo and Chicano pupils.[28]

[26] A detailed description of the procedure used to code classroom behavior is found in Appendix B, which will begin on p. 48.

[27] It was originally intended to include a comparison of teacher interactions with black and other minority students. However, since the number of black and other minority students observed was too small it was not possible to analyze these data.

[28] The statistical procedures used in the various analyses are outlined in Appendix D, which begins on p. 57.

CHAPTER II. OVERALL DISPARITIES IN TEACHER-PUPIL INTERACTION – AN ANGLO BIAS

The findings of the Commission's study on teacher interaction with Anglo and Chicano pupils are shown in Figure 2. The figure presents the average frequency of teacher-pupil behaviors according to the Flanders categories. For each type of behavior, the interaction of teachers with Mexican American students is compared with Anglo students by a measure of disparity. The per pupil interaction measures are given for the seven types of "teacher talk" and the two types of "student talk". In addition, three composite measures of behavior are reported: amount of positive teacher response to individual students (Categories 1, 2, and 3); amount of noncriticizing teacher talk (Categories 1 through 6); and total student speaking (Categories 8 + 9).

The data in Figure 2 show that there are important differences in teacher interaction with Mexican American students and Anglo students as evidenced by the size of the disparities in the per pupil interaction measures.

Disparities in six of the 12 categories are statistically significant. Essentially, this means that for these six disparities it is likely that similar disparites would be found in most of the classrooms in the survey area from which the sample was

Figure 2

Average Measures of Per Pupil Interaction for Individual Mexican American and Anglo Students[29]

	Average Mexican American	Average Anglo	Disparity[30]	Percent Increase in Anglo over M.A.
Teacher Behavior				
1. Acceptance of student's feelings	.004	.008	+.004	100.0%
*2. PRAISING OR ENCOURAGING	.137	.186	+.049	35.8
*3. ACCEPTANCE OR USE OF STUDENT IDEAS	.156	.219	+.063	40.4
*4. QUESTIONING	.525	.636	+.111	21.1
5. Lecturing	.584	.710	+.126	21.6
6. Giving Directions	.146	.141	−.005	−3.4
7. Criticizing or Justifying Authority	.055	.052	−.003	−5.5
Student Behavior				
8. Student Talk—Response	.771	.948	+.177	23.0
9. Student Talk—Initiation	.796	1.034	+.238	29.9
Composite Measures of Behavior				
*POSITIVE TEACHER RESPONSE (1-3)	.296	.413	+.117	39.5
*ALL NONCRITICIZING TEACHER TALK (1-6)	1.551	1.901	+.350	22.6
*ALL STUDENT SPEAKING (8+9)	1.567	1.982	+.415	26.5

* Disparities between Anglo and Mexican American are statistically significant at p=.01. This means that for these disparities there is only one chance in 100 that corresponding disparities would not be found in the population from which the sample was drawn.

[29] Per pupil interaction measures represent the number of times during a 10-minute observation period that the average pupil of each ethnic group was involved in interaction of each type. The figures were obtained by the following method: 1) for each classroom observed the number of tallies associated with students of each ethnic group was divided by the number of students of that ethnic group in the classroom, 2) these per pupil measures for each classroom were added and then divided by the total number of classrooms to obtain the average per pupil interaction measures for the sample.

[30] The standard deviations of each disparity measure given in Appendix H, Table 2 on p.68.

drawn.[31] In other words, these differences are representative of the schools attended by most Chicano students in the three geographic areas studied. For the remaining six disparities, it is possible that they are similarly representative of the schools attended by most Chicano students in these areas. However, because these six disparities did not prove statistically significant, this statement cannot be made with a high degree of certainty. Nonetheless, they provide an accurate picture of interaction patterns in the 429 observed classrooms. This report focuses primarily on those disparities which are statistically significant because of the substantial certainty of their occurrence over wide geographical areas.

The six categories in which the disparities are statistically significant are:

Praising or Encouraging
Acceptance or Use of Student Ideas
Questioning
Positive Teacher Response
All Noncriticizing Teacher Talk
All Student Speaking

Mexican American pupils in the survey area receive considerably less of some of the most educationally beneficial forms of teacher behavior than do Anglos in the same classrooms. Mexican

[31] The phrase "survey area" means the total classrooms in the three geographic regions from which the sample of 494 classrooms was drawn.

Americans receive significantly less praise and encouragement from the teacher and less often hear the teacher accept or use the ideas they express. Teachers also spend significantly less time in asking questions of Chicano pupils than of Anglo pupils. On the composite measure of positive response from the teacher, which includes acceptance of student feelings, praise or encouragement, and acceptance of student ideas, Mexican Americans receive significantly less than Anglos. Futhermore, teachers address significantly more of their total noncriticizing talk to Anglo pupils than to Chicanos. Closely related to the differences in teacher behavior with students of each ethnic group is the finding that Mexican American students speak significantly less in class than do Anglos. In total, the six statistically significant disparities in classroom interaction all favor Anglo pupils over Chicano pupils. The implication of each of these disparities will be discussed in greater detail in subsequent sections of this report.

The six categories in which the disparities are not statistically significant are:

Acceptance of Student's Feelings
Lecturing
Giving Directions
Criticizing or Justifying Authority
Student Talk—Response
Student Talk—Initiation

These disparities also indicate patterns of interaction favoring Anglos over Chicanos. Although it cannot be known with a high degree of certainty whether or not these six disparities exist throughout the survey area, their occurrence in the large sample of 429 classrooms visited is of considerable importance.

Teachers expressed very little acceptance of the feelings of any students, but they did express acceptance twice as often for Anglos as for Mexican Americans. Teachers also spent more time relating information to Anglo pupils than to Chicano pupils. The average Anglo pupil received 20 percent more of this "teacher talk" classified as lecturing than did the average Chicano pupil. This is important because more of the teacher's time was spent in giving information, or lecturing, than in any other type of behavior. About 36 percent of the time the teacher spent speaking to individual students, she was relating information to them.

Only two of the 12 measures of teacher behavior involved Chicano pupils more than Anglo pupils. These were directions and criticism, the two which appear to be the least favorable of all the measures of teacher behavior. The average Mexican American student received slightly more of both directions and criticism from the teacher than did the average Anglo. *Although the differences in direction and criticism are small they are important as part of the total pattern of classroom interaction—a pattern in which Chicano pupils consistently are encouraged less and discouraged more than their Anglo counterparts.*

The results also indicate that the average Mexican American verbally participated less in the classroom, both in response to the teacher and on his own initiative than the average Anglo.[32] The average Anglo pupil observed talked about 23 percent more in response to the teacher than the average Chicano pupil. He also spent approximately 30 percent more time talking on his own initiative than the average Chicano pupil. This second type of "student talk" is especially important because it indicates the extent to which students feel confident that what they have to say is worthwhile and that the teacher will welcome their ideas and opinions.

The total picture of classroom interaction patterns presented by the 12 disparities in Figure 2 is that of a teaching process which is failing to involve the Mexican American student to the same extent as the Anglo pupil, both in terms of quantity and quality of interaction. Teachers speak less often, and less favorably, to Mexican Americans than to Anglos. At the same time, Chicano pupils generally speak out less in class than do Anglo pupils. In view of the central importance of inter-

[32] Although the disparity in the composite measure of student talk was statistically significant, the disparities in the two individual measures of student speaking were not. The reason for this is that the calculation of statistical significance is based not only on the absolute difference, but also on the number of cases involved and the degree to which these cases vary among themselves.

action to learning, it is evident that Chicano pupils are not receiving the same quality of education in the classroom as are Anglo pupils.

The remainder of this report focuses on those differences between Mexican American and Anglo pupils which, with a substantial degree of certainty, represent corresponding differences in the entire survey area. The importance of each of the six statistically significant disparities, and their relationship to certain teacher, student, school, and classroom characteristics, are discussed separately in the section that follows.

CHAPTER III. A DISCUSSION OF SIX SIGNIFICANT DISPARITIES

A. Disparities in Teacher Praise and Encouragement

Praising and encouraging pupils is one of the important ways for a teacher to build confidence and lead students to participate more in classroom activities. Although it is possible to overuse praise and it may not always be beneficial,[33] it is usually a positive type of teaching technique by which the teacher expresses confidence in, and approval of, a student.

When used judiciously, praise and encouragement can have a positive effect on the child's self-esteem and on his or her attitude toward the teacher, the school, and learning in general. As a result he is more apt to want to contribute to the classroom discussion and thus become more actively involved in the teaching-learning process. Through praise and encouragement, the child also is likely to apply himself more vigorously and perform better in school.

OBSERVATION BY COMMISSION STAFF:[34]

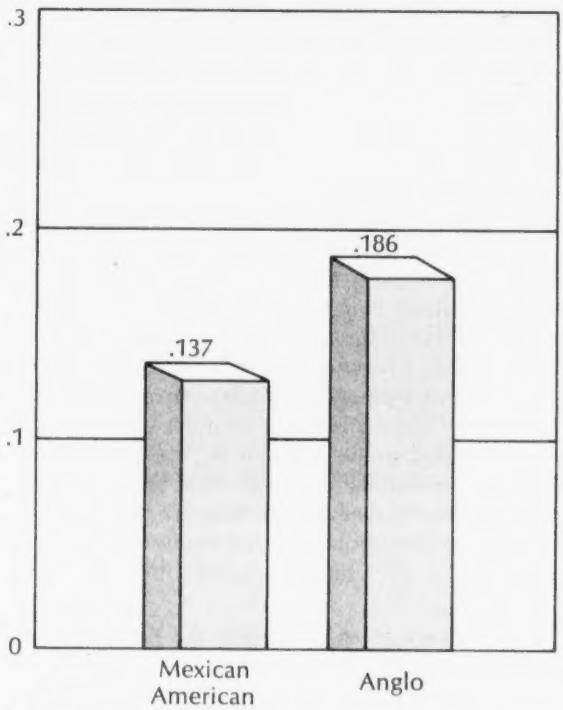
During a period of oral questioning from the teacher, one student sat quietly, not volunteering any answers. Then the teacher singled him out for praise, noting that he had answered 68 questions correctly on a 69 question written test administered earlier. Following the teacher's praise, this student began volunteering to answer her oral questions. Often, his hand was the first to be raised.

In the Commission's study, teachers make sparing use of praise and encouragement generally.[35] But the average Anglo received about 36 percent more praise or encouragement than the average Mexican American pupil in the same classroom. (See Figure 3.) This substantial disparity in praise very likely has adverse effects on the motivation and academic performance of Chicano pupils. The direct consequence of the disparity is that Mexican Americans receive less of the educational benefits of praise and encouragement than do Anglos. In addition, the disparity may damage the academic self-esteem and motivation of Chicano pupils because students tend to evaluate themselves on the basis of the teacher's treatment of them in comparison to other students.[36]

A number of possible explanations could be given for this disparity, but none can justify this pattern of unequal treatment. There is no reason why Mexican American students, as a group, should receive less praise and encouragement

Figure 3

Average Amount of Praise or Encouragement Given by Teachers to Individual Mexican American and Anglo Students



[33] George J. Mouly, *Psychology for Effective Teaching*, New York: Holt, Rinehart & Winston, Inc., 1968, pp. 350-352.

[34] The observations presented in this report occurred while a Commission observer was in the classroom. Following the classroom visits, the observers recorded those incidents which they thought to be significant.

[35] Only 2.6 percent of all class time observed was spent on teacher praise of individuals and of the class as a whole.

[36] Thomas Good and Jere Brophy, *Analyzing Classroom Interaction: A More Powerful Alternative*, Report Series No. 26, Austin, Tex.: The Research and Development Center for Teacher Education, University of Texas, 1969, p. 7.

than Anglo students if the educational program is adequately oriented toward the needs of all students.

One explanation that might be given for the disparity is that Chicanos speak less often than Anglos and thus make fewer contributions which the teacher can praise or encourage. In fact, other findings in this report indicate that Chicanos do speak less often than Anglos in the classroom. However, this is not a justification for the disparity in praise or encouragement for several reasons. First, the Commission also found that the teachers ask Mexican Americans fewer questions than Anglos and thus provide the Mexican Americans with fewer opportunities to speak in class. Second, praise and encouragement are coded by the Flanders system as a single category. Students who seldom speak may provide the teacher with few opportunities to praise their verbal contributions. However these same students are generally the ones who need the most encouragement from the teacher. Third, the schools' neglect of the language and cultural background of Mexican American students contributes to the reluctance of some Mexican Americans to participate verbally in classroom activities.

A large proportion of Chicano pupils enter school speaking very little English or with serious difficulties in using the language.[37] Yet few schools have adequate language programs to meet these needs.[38] This language difficulty prevents or inhibits many Chicano students from speaking in class in the elementary grades. In addition, the content of the curriculum in most classrooms is not designed to be relevant to the home background and familiar experiences of Spanish speaking children.[39] Likewise, teachers are not generally trained to incorporate the unique interests and experiences of Chicano pupils into the classroom discussion. These practices operate from the earliest years of school to exclude the Chicano child from active participation in the educational program. Through this neglect is begun the cycle of low participation, lack of interest, poor achievement, and low self-esteem which characterizes the educational experience of many Chicano pupils.

A second possible explanation for the disparity in praise or encouragement is that Chicanos may make proportionately fewer contributions worthy of commendation. The Commission's study did not address itself to the question of whether or not the contributions of Chicano students are less deserving of praise than those of Anglos. Here too, however, this explanation, if true, does not justify the disparity in praise. As noted above, the failure of the school to adapt to the different language and cultural heritage of Mexican American students is a significant contributing factor in the cycle which results in lower participation and achievement on the part of Chicano pupils. Furthermore, praise or encouragement from the teacher is a technique as important in stimulating higher performance as in rewarding performance already achieved. It is the responsibility of teachers to provide students with opportunities to succeed rather than fail, and to encourage and reward students for their efforts as well as their successes.

A third possible explanation is that teachers, because of bias or other personal predilections, may praise contributions of Chicanos less often than similar contributions of Anglos. The Commission's data do not provide documentation of the extent to which this is true. One source of bias in a teacher's treatment of students may be differential teacher expectations of student performance. In the view of a number of teachers observed by Commission staff, Mexican American children are not expected to perform as well as other children.

OBSERVATION BY COMMISSION STAFF:

One teacher, working in a predominantly Mexican American school complained to Commission staff of the problem she faced:

"I am a good teacher, I think. And if I had a

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[37] U.S. Commission on Civil Rights, *The Excluded Student*, p. 14.

[38] *Ibid.*, pp. 21-29.

[39] For a discussion of methods to develop and implement a bicultural elementary school curriculum, see Feliciano Rivera and Hector Cordova, "Curriculum and Materials for Bilingual Bicultural Education" in *The National Elementary Principal* issue on Education for the Spanish Speaking, Vol L, Number 2, November 1970.

normal bunch of kids I could teach. But this certainly is not a normal bunch of kids."

Evidence from other studies suggests that many teachers actually believe that Chicano pupils are not as capable of learning as other children. Teachers in one elementary school in a predominantly Mexican American town reported that she thought that Chicano students were basically "dull" or "slow witted."[40] Another study reported teachers to have said: "Look, so many Spanish American children have to repeat the first grade two to three times. They just can't learn as fast as Anglo American children. If you don't believe me check their test scores."[41] These types of negative attitudes are undoubtedly reflected in the way teachers treat Mexican American students in the classroom. Many hard working teachers fail to see that their own lower expectations and resulting behavior are part of the cycle of educational failure. Thus, one California junior high school teacher stated: "We will keep trying . . . but there is nothing you can do with these kids, they can't discuss, they can't talk, all you can do is give them seatwork to keep them under control."[42]

Teacher expectations of students are likely to influence their reactions to student behavior.[43] The relationship of expectations to teacher's praise of students was demonstrated by one study which found that at least some teachers praised a higher percent of the correct responses of students they perceived as high achievers than they did the equally correct responses of students they perceived as lower achievers.[44]

Thus, the disparity in praise or encouragement given to Anglo and Mexican American pupils cannot be justified as resulting totally from differences in the two groups of students. There is evidence that the disparity results, at least in part, from attributes of the schools and the teachers.

In an effort to refine further the data on disparities in praise or encouragement, the Commission compared variations in the amount of disparity found with different school, classroom, and teacher characteristics. Such questions were asked as: "Does the disparity increase or decrease with grade level?" "Do Mexican American teachers show less disparity in the amounts of praise given to students of each ethnic group than do Anglo teachers?" "Is the difference in praise or encouragement smaller in tracked than in untracked classrooms?" "Is the disparity larger or smaller in predominantly Mexican American schools?" To answer questions such as these, a total of 22 characteristics of the school, the classroom, and the teacher were studied for their relationship to the disparity in praise or encouragement. These characteristics are listed below:[45]

School characteristics

1) Mexican American percentage of school enrollment

2) Anglo percentage of school enrollment

3) Degree of ethnic concentration within school [measured by the variance of the Anglo percent composition of the classrooms]

4) Average socioeconomic status (SES) of Mexican Americans in the school [principal's estimate]

5) Average SES of Anglos in the school [principal's estimate]

6) Difference in Mexican American and Anglo average SES

7) Average SES of the school [weighted average of Mexican American and Anglo SES]

8) State in which school is located

Classroom characteristics

[40] Theodore Parsons, Jr., "Ethnic Cleavage in a California School," unpublished Ph.D. dissertation, Department of Education, Stanford University, 1965, p. 188.

[41] Clark S. Knowlton, "Bilingualism a Problem or Asset," Address delivered to the meeting of faculty and staff of Anthony School District, Dec. 8, 1965, Anthony, N. Mex.: Mimeographed, 1965.

[42] Thomas P. Carter, *Mexican Americans in School: A History of Educational Neglect*, New York: College Entrance Examination Board, 1970, p. 114.

[43] For a discussion of the effects of teacher expectations on teacher and student behavior, see R. Rosenthal and L. Jacobsen, *Pygmalion in the Classroom: Teacher Expectation and Pupils' Intellectual Development*, New York: Holt, Rinehart, and Winston, Inc., 1968, chs. 1-4.

[44] Thomas Good and Jere Brophy, *Teachers' Communication of Differential Expectations for Children's Classroom Performance*, Austin: University of Texas R&D Center for Teacher Education, 1969.

[45] A detailed description of the calculation of each of these measures is found in Appendix C, which begins on p. 51.

9) Grade level of class
10) Track level of class [as reported by teacher][46]
11) Subject matter of course
12) Criterion used to seat students [as reported by the teacher]
13) Physical location of Mexican Americans in the classroom [based on observed seating positions]
14) Physical location of Anglos in the classroom [calculated from observed seating positions]
15) Mexican American percentage of enrollment in the class
16) Anglo percentage of enrollment in the class
17) Total number of students in the class

Teacher characteristics

18) Extent of teacher's education
19) Teacher attendance at any inservice training sessions related to teaching Mexican Americans [as reported by the teacher]
20) Teacher's ethnicity
21) Teacher's age
22) Teacher's sex

The disparity in praise or encouragement given Mexican Americans and Anglos was found to vary significantly[47] among categories of only two characteristics: the seating criteria used by the teacher and the ethnicity of the teacher. This means that the disparity in praise was larger under some student seating patterns than others, and that teachers of one ethnicity showed a greater disparity in praise or encouragement than those of another ethnicity. The fact that the disparity did not vary across differences in any of the other characteristics means that the difference in the amount of praise given Anglo and Chicano pupils was found to be of the same magnitude in many types of schools and classrooms and with different types of teachers. Thus, the disparity was about equally large in predominantly Anglo and predominantly Mexican American schools, in schools of varying concentrations of students from low socioeconomic backgrounds, at all grade levels studied, in classrooms with young or old teachers, and so forth.

The disparity in praise or encouragement given Chicano and Anglo students varied according to the criteria used by teachers to seat students. In classes where teachers seated students homogeneously by ability[48] there was a significantly greater disparity in praise than in classes where students were seated by any other method. The findings in Figure 4 show the average amount of praise or encouragement given to Mexican American and Anglo students by teachers using five different types of seating arrangements. Teachers who assigned their students to seats to form homogeneous ability seating groups exhibited far greater disparities in praise toward Mexican American and Anglo students than did teachers who used any other seating criterion. Thus, teachers who seated students homogeneously gave about as much praise to Chicanos as did teachers who used other seating arrangements, but they gave considerably more praise to Anglos than did the other teachers.

As illustrated in Figure 4, teachers using the homogeneous seating criterion give Anglos more than four times the amount of praise or encouragement they give Mexican Americans. The Commission's data indicate that the use of this seating method is much more prevalent in the early grades than in the later grades.[49] It is the early years of schooling which most influence a student's attitudes toward school and his patterns of academic achievement. Therefore, the practice is most widely used when it has the potential for the greatest harm.

The Commission's data offer no direct explanation for the increased disparity in praise or encouragement associated with the homogeneous seating pattern. However, the explanation may in some way be related to the fact that homogene-

[46] Tracking is an educational practice by which students are separated in classes according to measures of their achievement or "ability", or a combination of both these. Thus, the low achieving or low "ability" students are placed in certain classes, and the high achieving or high "ability" students are placed in other classes.

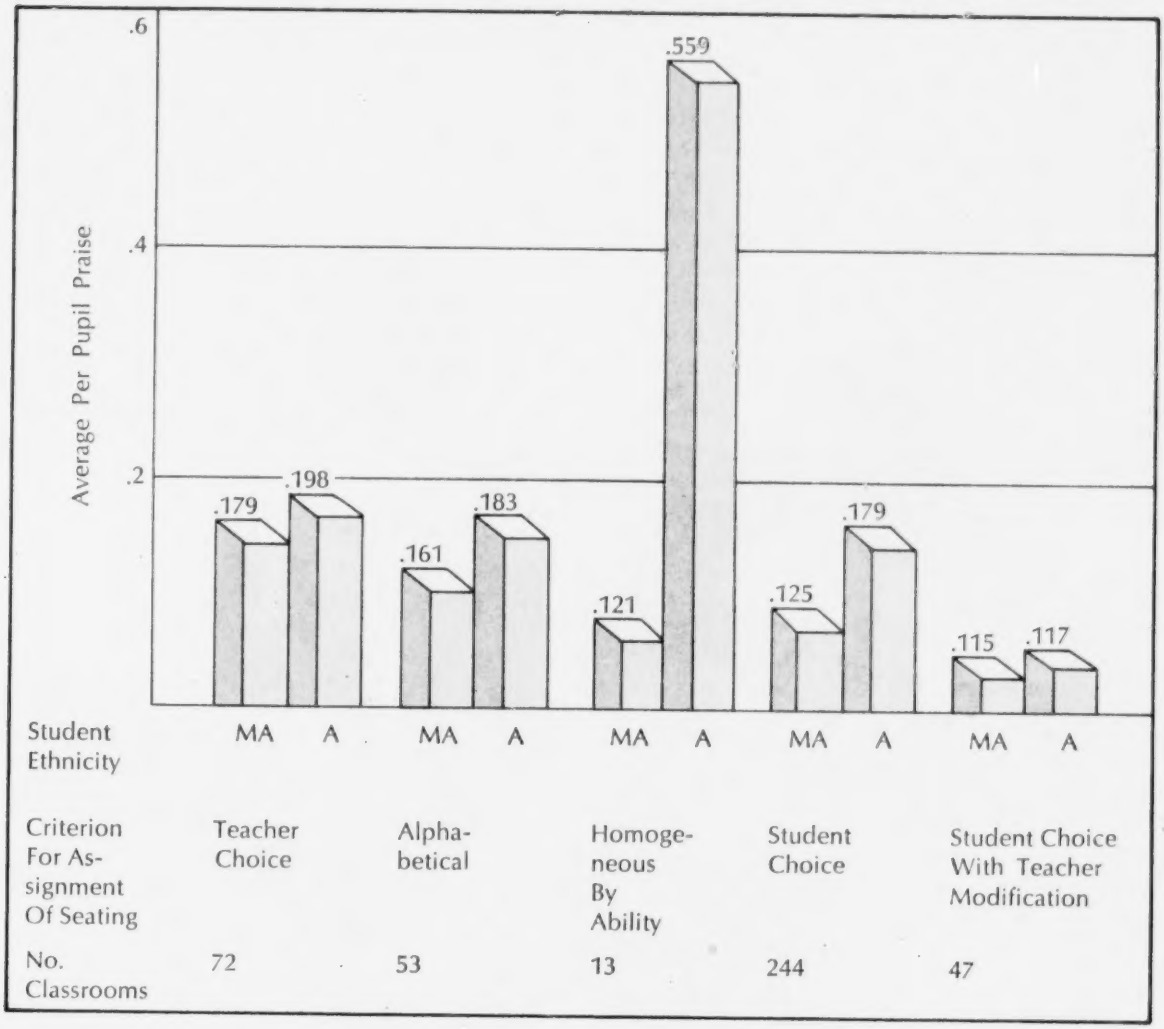
[47] Statistically significant at $p = .01$.

[48] Students are seated in the classroom together with other students perceived by the teacher to be of the same ability.

[49] The percent of all classes of each grade level using the homogeneous seating method were as follows: 16 percent of all fourth grade classrooms, 2 percent of the eighth grade classrooms, 1 percent of the 10th grade classrooms, and none of the 12th grade classrooms.

Figure 4

Average Amount of Praise or Encouragement Given Per Pupil to Individual Mexican American and Anglo Students by Teachers Using the Specified Criterion for Assignments of Seats



ous seating is likely to result in a greater degree of physical separation of Chicanos and Anglos within a classroom. The reason for this is that student ability is usually judged by achievement. At present, in our school system, Mexican American students are disproportionately represented among the lower-achieving students. Therefore, this seating criterion tends to separate Mexican American and Anglo students physically within the classroom. The physical separation may in some way accentuate the disparity in praise or encouragement which, under any seating arrangement, consistently favors Anglo students.

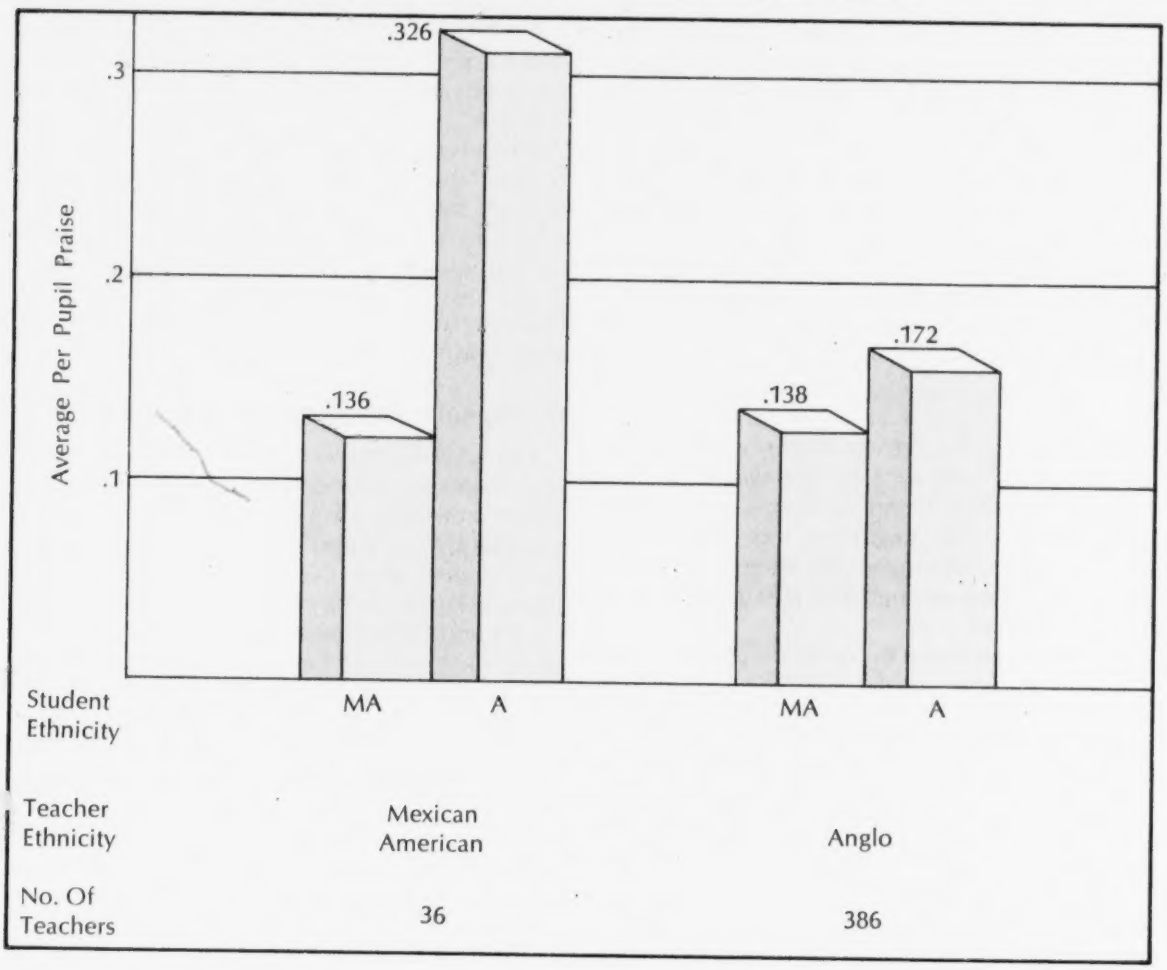
It should be noted that only 3 percent of the

classes sampled used homogeneous ability as the seating criterion. While the disparity in praise or encouragement was much larger when this seating criterion was used, there was some disparity under the other types of seating criteria as well. Therefore, homogeneous ability seating alone cannot account for the overall disparity. Nonetheless, the magnitude of the disparity raises serious questions concerning the use of this seating method.

The disparity in the amount of praise given to Mexican American and Anglo students was also found to vary significantly with the ethnicity of the teacher. Figure 5 shows that Mexican American and Anglo teachers give similar amounts of praise or encouragement to Chicano pupils. However, Mexican American teachers praise Anglo pupils considerably more than their Anglo colleagues. This results in a larger disparity in praise or encouragement from the Mexican American teachers in favor of Anglo students.

Figure 5

Average Amount of Per Pupil Praise or Encouragement Given to Individual Mexican American and Anglo Students by Mexican American and Anglo Teachers



It is not known precisely why Mexican American teachers give more praise to Anglo students than do Anglo teachers. This phenomenon may be the result of a combination of factors involving characteristics of the Mexican American teachers, the children they teach, and the schools in which they teach.

There is a tendency for Mexican American teachers to be found in classrooms with a high proportion of Chicano pupils and in schools with high Chicano enrollments. Half of all Chicano teachers who were observed taught classes in which 60 percent or more of the students were Mexican American and most taught in predominantly Mexican American schools.[50] Thus, in comparison to Anglo teachers, Chicano teachers generally teach where there are fewer Anglo pupils. This may in some way be related to the greater amounts of praise they give to the average Anglo in their classes.

One possible interpretation is that Mexican American teachers may tend to use the relatively few Anglos in their classrooms to emphasize the middle class Anglo culture and values to the Chicano pupils. It is possible that, to a large extent, many Mexican American teachers operate under the philosophy that success for Chicano pupils lies in acquiring Anglo traits.[51] If this is the case, they would be likely to give more praise and encouragement to the average Anglo pupil than to the average Chicano pupil in their classroom. The fact that Mexican American teachers generally have relatively few Anglos in their classrooms would tend to accentuate the difference in the amount of praise per pupil they give to Anglo and Chicano students.

This same phenomenon could be occurring on a more subconscious level not directly related to a desire to help the Chicano pupils. As a result of having gone through an educational system dominated by the Anglo culture and working in a school system directed by Anglo administrators, it is possible that many Mexican American teachers seek to identify with the culture and values of the dominant society. This also could be reflected in giving greater amounts of approval to the Anglo students in their classrooms.

It should be noted that Mexican American teachers made up only 9 percent of the total teachers observed and that Anglo, as well as Chicano teachers, gave somewhat more praise or encouragement to Anglo pupils than to Chicano pupils. Therefore, the finding that the disparity in praise is greater among Mexican American teachers by no means accounts for the overall disparity in praise.

Whatever the specific explanation for the increased amount of praise or encouragement given to Anglo pupils, this finding suggests that Mexican American teachers, as well as Anglo teachers, need training in dealing with the two groups of students. This is an important area of concern for teacher training programs, as well as inservice training for experienced teachers.

B. Acceptance and Use of Student Ideas

One of the most effective means of encouraging students to participate in classroom discussion and of motivating them to learn is through the use of behavior characterized as the "acceptance and use of student ideas." When a teacher makes statements acknowledging or incorporating a student's contribution, the teacher is both commending the pupil for the idea and informing the class that the student's contribution is worth listening to. This is an important way of giving positive reinforcement to the student—more effective, for example, than merely expressing approval without repeating or referring to the points which were made.[52] In repetition or rephrasing, the teacher is in effect saying that the student's contribution is sufficiently worthwhile to be taken note of by the entire class,

[50] Seven of every 10 Chicano teachers taught in schools where the enrollment was 50 percent or more Mexican American. In addition, most of the Mexican American teachers taught in schools in which the ethnic composition of the individual classrooms varied a great deal from the ethnic composition of the total school. The average Mexican American teacher observed by Commission staff taught in a predominantly Mexican American school, in a classroom which had a considerably higher proportion of Mexican Americans than the school as a whole.

[51] This phenomenon has been found to be characteristic of some minority teachers in particular older teachers trained in more traditional methods.

[52] Rosenshine, *op. cit.*, p. 71.

while at the same time indicating to the student that she took the time to listen and try to understand what he was saying.

Further, teacher discourse using student contributions generally reflects the extent to which the teacher is drawing upon the interests and experiences of the child to interest him in the content material. One of the most important tasks in teaching is to help the student see the relevance of what he is learning. As one educator has pointed out, the key to motivating the child lies in bridging the gap between those things he should learn and those things he wants to learn.[53] One way of bridging this gap is to encourage students to express their interests and ideas in the classroom and then to build on these contributions by relating them to the content to be learned.

Another reason why the use of student ideas is beneficial to learning lies in the very repetition of a worthwhile idea or piece of information. Whenever a teacher restates or summarizes a correct answer or interpretation given by one of the students it is potentially beneficial for the learning and recall of all the students in the class.

The importance of the acceptance and use of student ideas to learning has been documented by research. This research has shown that the more teachers make use of this behavior, the better the achievement and attitudes of those students. A recent review of the research on teacher effectiveness reached the following conclusion:

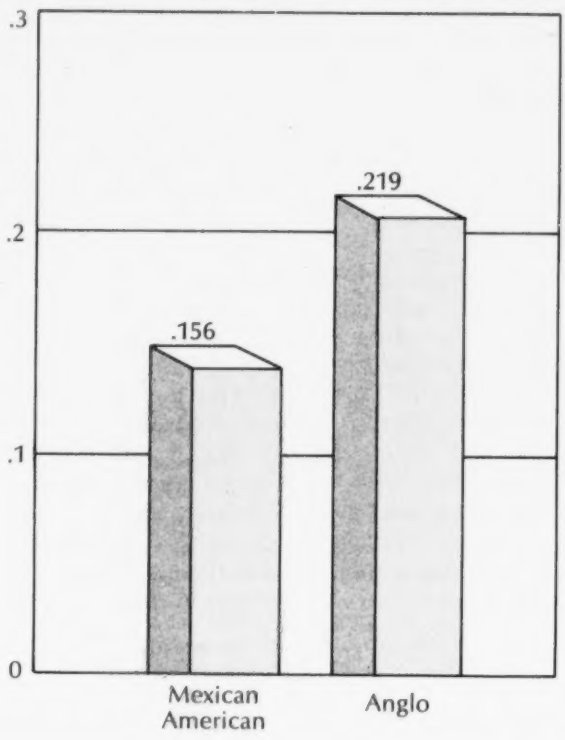
> *. . . it can now be stated with fairly high confidence that the percentage of teacher statements that make use of ideas and opinions previously expressed by pupils is directly related to average class scores on attitude scales of teacher attractiveness, liking the class, etc., as well as to average achievement scores adjusted for initial ability.*[54]

In fact, the evidence from the research to date indicates that of all types of teacher approval, none is as strongly and consistently related to higher pupil achievement than the use of student ideas.[55]

In view of the importance of this type of teacher behavior, the Commission's finding on the disparity in the teacher's use of the contributions of Anglo and Chicano pupils is a disturbing one. *The average Anglo pupil in the survey area hears the teacher repeat, or refer to, an idea he or she has expressed about 40 percent more than does the average Chicano pupil* (See Figure 6). This disparity is potentially even more damaging to the Chicano pupils than is the disparity in praise or encouragement, for it reflects a disparity both in teacher approval and in the extent to which the student's own interests and experiences are

Figure 6

Average Amount of Acceptance and Use of Student Ideas Per Pupil Given by Teachers to Individual Mexican American and Anglo Students



[53] Mouly, *op. cit.*, pp. 333-42.

[54] Ned A. Flanders, "Teacher Effectiveness," *Encyclopedia of Educational Research*, 1969.

[55] Rosenshine, *op. cit.*, p. 71.

deemed worthy of incorporation into the classroom discussion. The Chicano student's perception of the worth of his own ideas and experiences, in comparison to those of Anglo students, necessarily is influenced by the teacher's use of the contributions of members of each group. The disparity in favor of the Anglos is likely to result in lower self-esteem, decreased interest, and poorer academic performance for the Mexican American pupils.

The possible explanations for this disparity in the acceptance and use of student ideas are essentially the same as the three previously discussed in reference to the disparities in praise. It may be that Chicanos are speaking less in the classroom and thus making fewer contributions which the teacher can accept or use. Secondly, Chicanos may make proportionately fewer contributions which are considered sufficiently worthwhile for the teacher to use. Finally, teachers may express acceptance or use of contributions by Chicanos less often than similar ones by Anglos. As discussed in the previous section, these may, in part, explain the disparity, but they do not justify it.

As with the disparity in praise, the Commission sought to determine if disparity in the teacher's use of student ideas varied by characteristics of school, classroom, and teacher.[56] It was found that the disparity in the use of student's ideas varied significantly among categories of only one of the 22 conditions: the degree of ethnic concentration within a school, as measured by the variation in the ethnic composition of classrooms in the school.[57] The fact that the disparity did not vary across differences in any of the other 22 characteristics means that the disparity was equally large for all the other different types of schools, classrooms, and teachers studied.

Figure 7 illustrates the extent of disparity in the use of student ideas found in three different types of schools: (1) low ethnic concentration within a school, where Chicano and Anglo pupils appeared to be evenly distributed among the classrooms;[58] (2) medium ethnic concentration, where there was a tendency for Mexican American pupils to be found in some classrooms more than others; and (3) high ethnic concentration, where Mexican American and Anglo pupils were definitely separated in different classrooms.[59] In all three types of schools, teachers used the ideas expressed by Anglos more than they used those expressed by Chicanos. However, in schools with low ethnic concentration, the teachers exhibited a significantly larger disparity in the amount of acceptance and use of student ideas than in schools where there was a moderate degree of concentration.[60]

In schools with a low degree of ethnic concentration, the average Anglo heard the teacher accept or repeat a contribution he had expressed nearly 2½ times more often than did the average Chicano pupil. This is an extremely large disparity on such an important type of teacher behavior. In addition, it affects a large proportion of Mexican American pupils, since over one-fifth of all the classrooms visited were in schools with low ethnic concentration.

The results indicate that a sizable part of the overall disparity in the acceptance and use of students' ideas is accounted for by the disparity that exists in the schools with low ethnic concentration. This is because these classrooms accounted for a sizable proportion of the total and because the magnitude of the disparity found in

[56] See pp. 23 & 24 for a list of characteristics.

[57] The degree of ethnic concentration within a school was measured by an index of variance in class percent Anglo. This index measures the extent to which the percentage of Anglo pupils in each of the classrooms visited varies from the average percent Anglo of the total classrooms visited in the school. See Appendix C, p. 51.

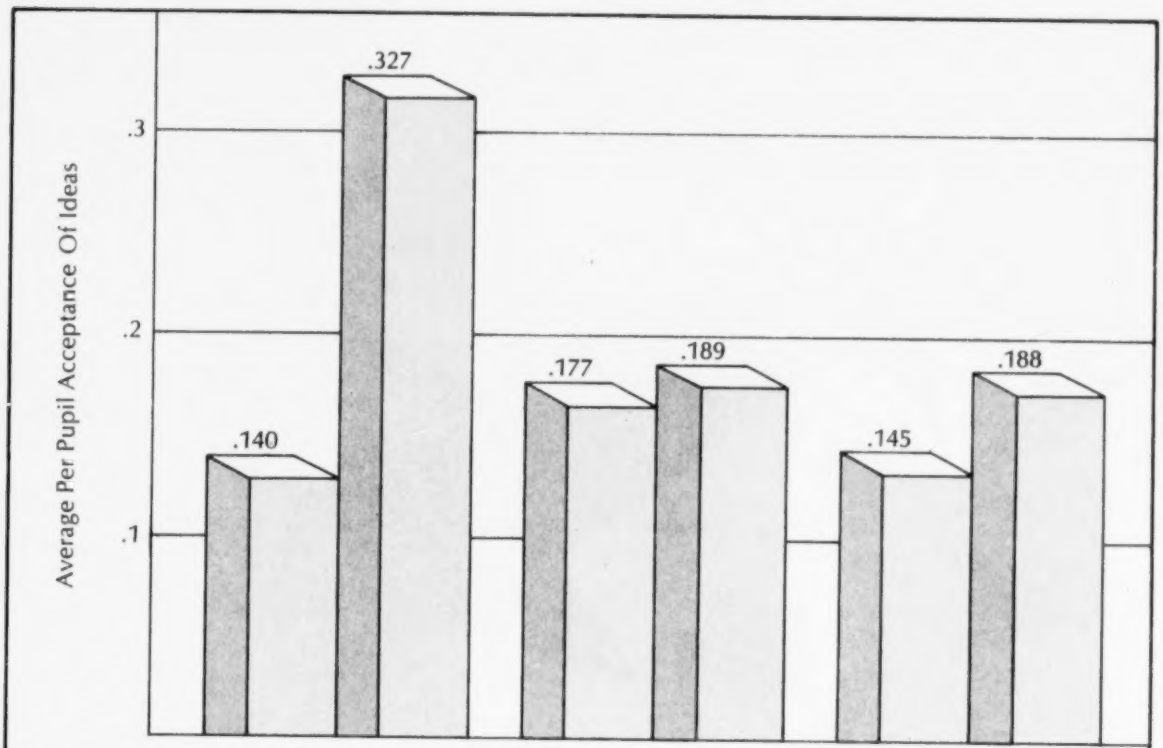
[58] Although the index of ethnic concentration was calculated only from those classrooms visited in a school, it is assumed to be reasonably representative of the relative degree of ethnic isolation in the whole school. See Appendix C.

[59] The term "ethnic concentration" is not to be confused with the term "ethnic composition". The ethnic composition of a school refers to the percentages of the total school enrollment comprised by each ethnic group in that school. The level of ethnic concentration is a measure of the extent to which the ethnic composition of *each class* in the school is similar to the ethnic composition of the *whole school*. For example, schools with a low percent composition of Mexican American students can still have a high level of ethnic concentration if all or most of the Chicano students are found in a few classrooms.

[60] The disparity in the low ethnic concentration schools was also substantially larger than that in the high ethnic concentration schools, but the difference was not statistically significant.

Figure 7

Average Amount of Acceptance and Use of Student Ideas Per Pupil Given to Individual Mexican American and Anglo Students by Teachers in Schools with Various Degrees of Ethnic Concentration



* The degree of ethnic concentration within the school represents the extent to which there is variation in the ethnic composition of classrooms within a school. In low ethnic concentration schools, Mexican American students appear to be distributed evenly among the classrooms. In medium ethnic concentration schools, there is a tendency for Mexican Americans to be found in some classrooms more than others. In high ethnic concentration schools, Mexican Americans are definitely isolated in specific classrooms. For a discussion of the specific cutoff points used to differentiate low, medium, and high, see Figure 17 in Appendix C.

the other classrooms was relatively small.[61]

The schools with a low level of ethnic concentration are schools which have little or no ethnic segregation of students by classes within the school. The finding that these schools exhibited a large disparity between Anglo and Chicano pupils in the teacher's acceptance and use of students' ideas should not be interpreted to mean that this is a necessary result of mixing students of different ethnic groups in the classroom. Rather, it shows that for integration to work, schools must do more than mix majority and minority students in the same classrooms. Teachers must be trained to interact equitably with all students in integrated classroom situations and schools must adapt their curriculum to the varying backgrounds of the students. The Commission's finding indicates that these steps have not been adequately carried out in integrated schools.

C. Positive Teacher Response

The Category "Positive Teacher Response" represents a composite of all teacher behaviors which express approval, support, or acceptance of student behavior. In this study it is measured by the sum of three types of teacher behavior: acceptance of student feelings, praise and encouragement, and acceptance or use of student ideas.[62] This combination measure reflects the overall degree of teacher warmth, approval, and encouragement, and, as such, is an indicator of the emotional tone of teacher-student interactions. The greater the amount of positive response from the teacher, the more the student is likely to feel that he is capable of achieving and that his contributions are worthwhile.

The importance of this measure in the teaching-learning process lies in the significance of each of the teacher behaviors of which it is comprised. As discussed in previous sections, praise and encouragement, and the acceptance or use of student ideas are both key types of behavior which have a significant impact on student attitudes and achievement. Teacher acceptance of student feelings also is important because it indicates how much the teacher allows or encourages individual expression of emotion in the classroom setting. Although the Commission data show that teachers seldom exhibit this behavior,[63] even an occasional expression of acceptance or feeling is likely to affect the emotional climate of the classroom.

The Commission's findings regarding positive teacher response to Anglo and Mexican American students show that the average Anglo pupil receives about 40 percent more positive response from the teacher than does the average Chicano pupil. (See Figure 8). This is one of the largest disparities found in this study.

This disparity essentially reflects the large disparities in teacher praise or encouragement and teacher acceptance of students' ideas.[64] Consequently, it raises concerns similar to those raised by the disparities in those behaviors. In addition, because positive teacher response represents overall warmth and approval, this disparity is also indicative of differences in the emotional tone of teacher relationships with Anglo and Chicano pupils.

[61] The Commission attempted to determine possible reasons why this disparity was accentuated in schools of low ethnic concentration. One possible reason that was explored was the relationship of this disparity to "tracking", an educational practice by which students are separated in classes according to measures of their achievement or "ability", or a combination of both of these. The data show that tracking occurred much less frequently in schools of low ethnic concentration, as compared to other schools. Eighty-two percent of the classes in schools with low ethnic concentration were reported to be untracked whereas 45 percent and 29 percent of the classes in schools with medium and high levels of ethnic concentration, respectiveiy, were reported to be untracked. On the basis of this association, it was hypothesized that the disparity might occur most frequently in untracked classrooms where there is a wide range of academic performance among students. However, this was not confirmed by the Commission's data. Disparities in the acceptance and use of student ideas between Mexican Americans and Anglos did not vary significantly between tracked and untracked classrooms. Although the differences were in the expected direction, the calculated F statistic was less than one-tenth of the value needed in order to be statistically significant. The magnitude of the disparity in acceptance and use of ideas of Mexican American and Anglo students was .079 in untracked classes, .058 in low track classes, .055 in those of medium track, and .022 in that of high track.

[62] That is, categories 1-3 of the Flanders Interaction Analysis System.

[63] See Fig. 2, p. 17, *supra*.

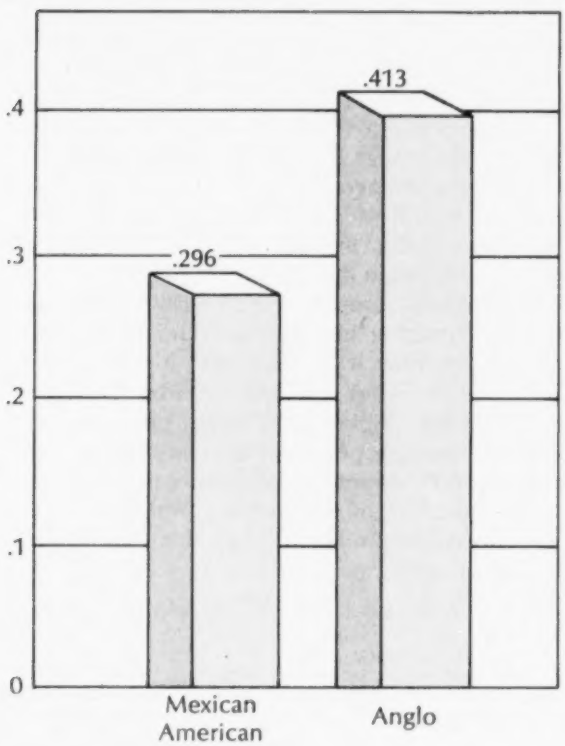
[64] This is because the disparity in acceptance of student feelings occurred very infrequently and was found not to be statistically significant.

The Commission sought to determine if the inequality in positive teacher response varied among differences in any of the 22 characteristics of the school, the classroom, and the teacher. It was found that the magnitude of the disparity varied significantly among categories of only two of the 22 conditions: the classroom seating criteria used and the degree of ethnic concentration, as measured by the variation in the ethnic composition of classrooms within a school. The disparity was equally large across differences of the remaining 20 categories.

The manner in which the disparity in positive teacher response varied across different methods of seating was very similar to the pattern found for the disparity in praise or encouragement.[65]

Figure 8

Average Amount of Positive Response Per Pupil Given By Teachers to Individual Mexican American and Anglo Students



As illustrated in Figure 9, teachers who seat students by ability exhibit a much greater disparity in giving positive response to Anglo and Chicano pupils than do teachers who use any other criteria for seating. These teachers give Anglos more than three times as much positive response than they give Chicanos.

It is not possible to explain this association from the data collected. However, as noted earlier, it is likely that in classes where the homogeneous seating criterion is used, Chicanos are more physically isolated from Anglos than in classes where other seating criteria are used. This physical separation may accentuate the disparity in positive teacher response between the two ethnic groups.

The disparity in positive response was also found to differ among schools of varying levels of ethnic concentration within the school. Again, the pattern of variation was very similar to that exhibited for disparities in the use of student ideas.[66] As Figure 10 illustrates, the difference in the amount of positive response given to Chicano and Anglo students is significantly greater in low ethnic concentration schools than in those with a moderate amount of ethnic concentration across classrooms. The greater inequity in positive teacher response to Chicano pupils found in the schools with the least amount of segregation within the school highlights the need for teacher training and curriculum adaptation in integrated settings.

D. Teacher Questioning

The relative amount of teacher questioning[67] is

[65] The pattern found for the disparity in praise across seating methods was also found for the disparity in the acceptance of student ideas, although the latter was not statistically significant. The pattern found for disparity in positive feedback results from the association of seating criteria with disparities in both of the behaviors which are the two main components of positive feedback.

[66] See fig. 7, p. 31, *supra*.

[67] The manner in which this teacher behavior was recorded does not differentiate between questions directed at students who were volunteering to speak and those directed at students who were not volunteering. Regardless of whether the teacher was requesting a student's response or permitting a student's volunteered response, the amount of questioning is a measure of the extent to which teachers directly solicited contributions.

Figure 9

Average Amount of Positive Response Per Pupil Given to Individual Mexican American and Anglo Students by Teachers Using the Specified Criterion for Assignment of Seats

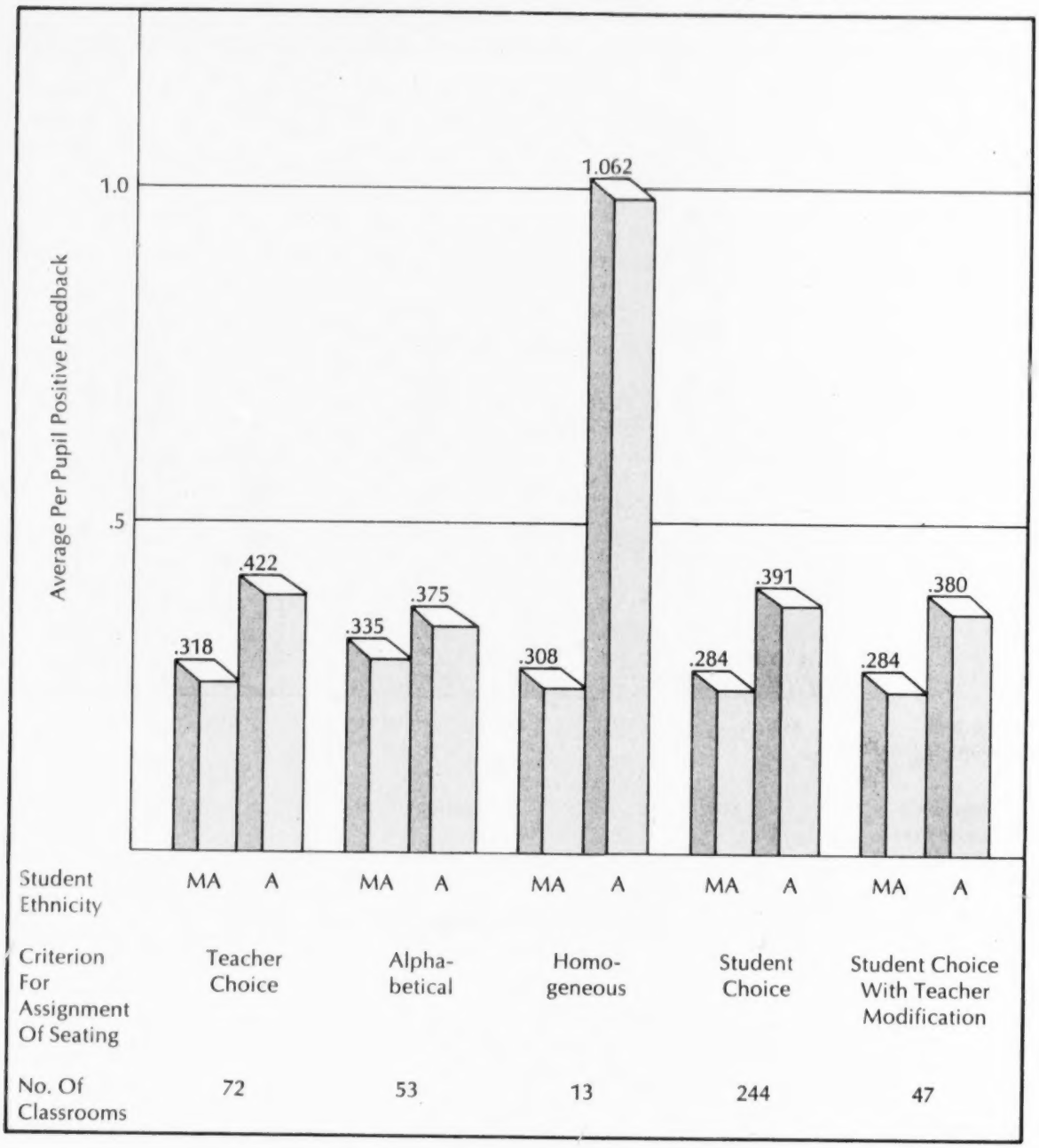
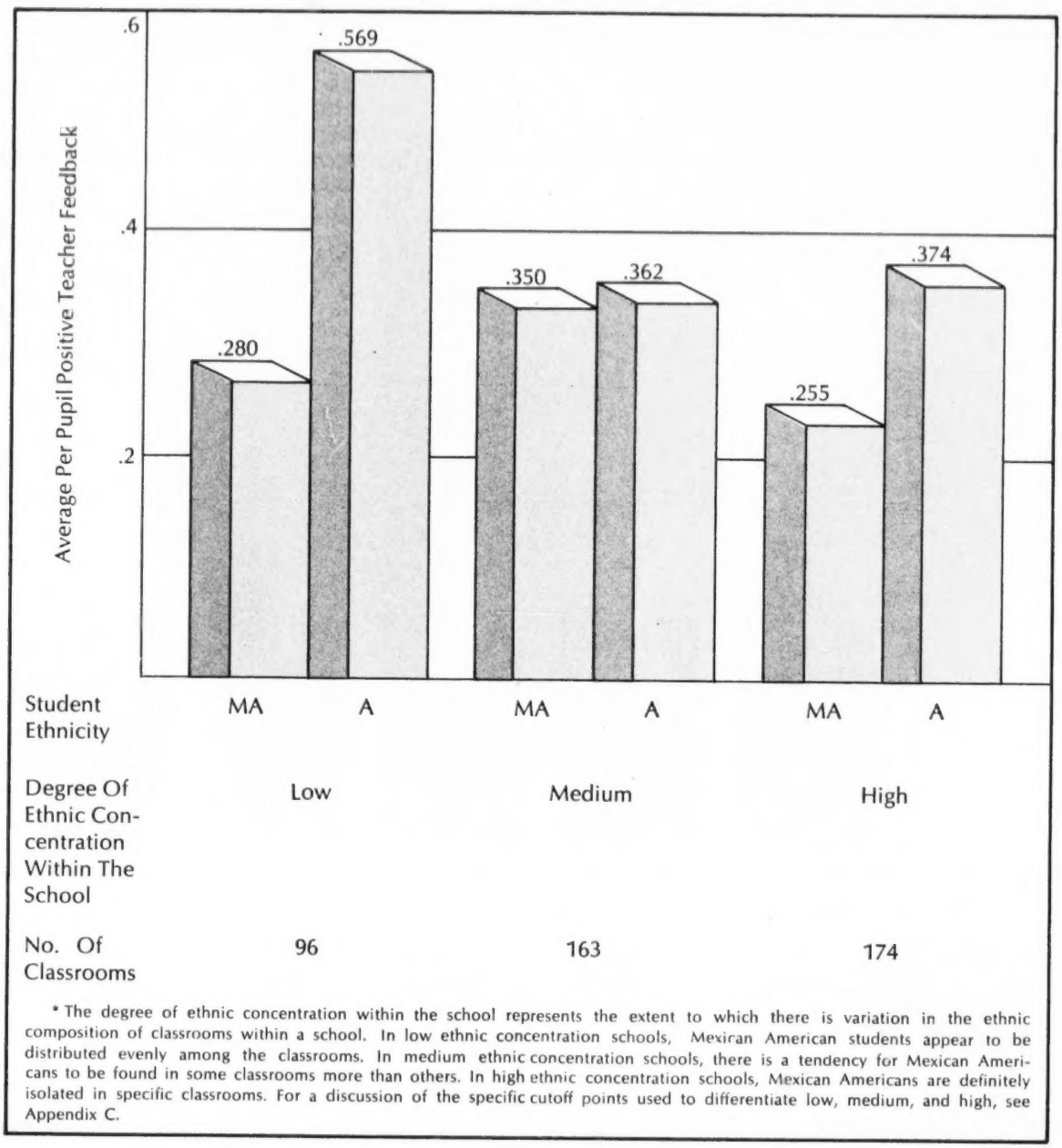


Figure 10

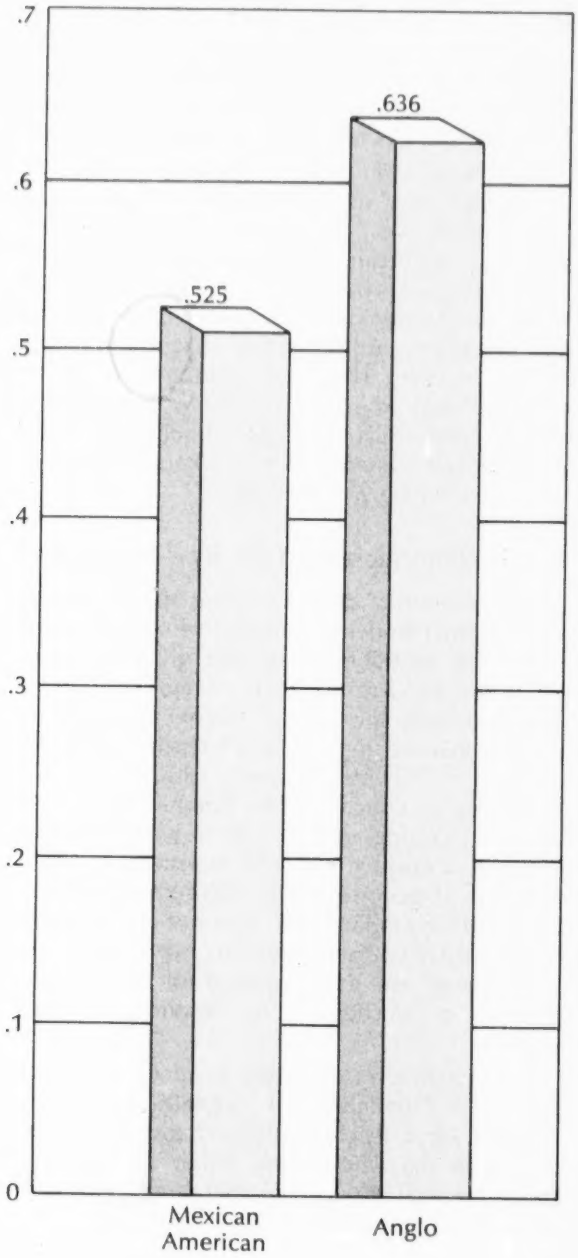
Average Amount of Positive Response Per Pupil Given to Individual Mexican American and Anglo Students by Teachers in Schools of Different Degrees of Ethnic Concentration Within the Schools.*



* The degree of ethnic concentration within the school represents the extent to which there is variation in the ethnic composition of classrooms within a school. In low ethnic concentration schools, Mexican American students appear to be distributed evenly among the classrooms. In medium ethnic concentration schools, there is a tendency for Mexican Americans to be found in some classrooms more than others. In high ethnic concentration schools, Mexican Americans are definitely isolated in specific classrooms. For a discussion of the specific cutoff points used to differentiate low, medium, and high, see Appendix C.

Figure 11

Average Amount of Teacher Questioning Per Pupil of Individual Mexican American and Anglo Students



important because it indicates the extent to which students of each ethnic group are asked or allowed to speak by the teacher. The value of teacher questioning lies in the basic importance of student involvement in the teaching-learning process. If the teacher is to make the content material relevant to the class, he or she must encourage students to express their own interests and experiences in the classroom situation. In addition, if students are to be more than passive recipients of the information given by the teacher, they must be encouraged to think independently and express their insights and conclusions in classroom discussion. Teacher questioning is also important in providing students with the practice needed in certain phases of the learning process. Furthermore, student participation provides a means by which the teacher is informed of the student's progress in such a way that he can provide immediate direction and reinforcement.

Not all teacher questioning is necessarily beneficial to learning. It is possible for questioning to be overused, and different types of questions are more appropriate to different learning situations. Nonetheless, questioning is generally considered a positive type of teacher behavior. Research conducted to date indicates that, at least in the primary grades, the frequency of asking questions is associated with increased pupil achievement.[68]

The amount of teacher questioning is particularly significant with regard to those students who, for one reason or another, are reluctant to speak in class. Instead of ignoring these students in classroom interaction, the teachers can attempt to draw them out through the use of questions aimed at their special interests or performance levels.

According to the Commission's data, the average Anglo pupil in the survey area receives about 21 percent more questioning from the teacher than the average Chicano pupil. (See Figure 11). This difference shows the extent to which Anglos have more direct opportunity to speak out in class than Chicanos.

One possible explanation for the fact that

[68] Rosenshine, *op. cit.*, p. 80.

Mexican American pupils are questioned less frequently than Anglos may be that they raise their hands less often to volunteer an answer or make a comment. Even so, this would not justify the disparity in questioning. Teachers are responsible for encouraging all students to participate, not merely those who are eager to do so. The surest way to encourage students to participate is to ask them questions. For example, students can be questioned on content material with which they are familiar and in which they are interested and, therefore, can have a fair chance of success and satisfaction. Thus the teacher, calling on students reluctant to assert themselves, can give them the opportunity to succeed and encourage their more active class participation.

OBSERVATION BY COMMISSION STAFF:

The teacher called on a Mexican American boy and, at first, the student hesitated about reading his story before the class. The entire class urged him on; they seemed to know that he would have an interesting composition. He stood up and read both compositions while the entire class roared with laughter. He had composed two very humorous situations. The teacher did not need to reinforce very much—the class had already done it for her. By merely calling on the student, she had given him an opportunity that he felt "good" about.

By the same token, the teacher, by failing to call on a student, can dampen his enthusiasm and lessen his class participation even more.

OBSERVATION BY COMMISSION STAFF:

There were several Chicanos who kept raising their hands eagerly at every question. Mrs. G. would repeatedly look right over their heads, and called on some of the same Anglo students over and over. In some cases she would call on the Chicanos only because the Anglos stopped raising their hands. After a while the Mexican American children stopped raising their hands.

The disparity in teacher questioning of Anglo and Mexican American pupils is the most direct evidence of the failure of the schools to involve Chicano pupils adequately in the classroom interaction process. It is possible that the disparities in praise, use of student ideas, and overall positive teacher response are partly a result of the fact that Chicano pupils are less verbally active in class. However, at least part of the reason why they speak out less can be attributed to the fact that teachers ask fewer questions of them.

The disparity in teacher questioning did not vary significantly across differences in any of the 22 characteristics of schools, classrooms, or teachers. This means that the disparity in teacher questioning was found to be equally large in all types of classrooms observed, in all types of schools, and regardless of the background of the teacher studied. Thus, the disparity was essentially the same in predominantly Mexican American or predominantly Anglo schools, in tracked or untracked classes, in classes where the teacher was old or young, and so forth.

E. All Noncriticizing Talk By The Teacher

The amount of time a teacher spends talking to individual students is indicative of the overall individual attention he or she gives to them, both positive and negative. When criticism is excluded from the sum of teacher talk, the resulting measure represents all teacher attention directed to individual students which is not disapproving or critical. In the Commission's study all noncriticizing teacher talk is a combination measure of positive response, questioning, lecturing and direction giving. Although these behaviors, taken individually, may not always prove to be beneficial to the student, when taken together they are an indication of the relative concern a teacher shows toward individual students.

It is possible for a teacher to spend too much time talking to individual students, just as it is possible for a teacher to spend too much time talking to the whole class. Either of these can be detrimental if a teacher spends so much time talking that the students have little opportunity

to speak. However, in the Commission's study, the amount of teacher talk directed to individuals did not appear to discourage student speaking. On the contrary, the amount the teacher spoke to individual students was associated with more student speaking rather than less. Teachers talked more to Anglo pupils than to Chicano pupils and Anglos spoke more in class than did Mexican Americans. Thus the quantity of noncriticizing talk by the teacher was positively related to student participation.

Figure 12 illustrates the comparative amounts of all noncriticizing teacher talk received by the average Anglo and the average Mexican American student. *Teachers spend 23 percent more time in all nondisapproving talk with Anglo than with Chicano pupils.* The amount of this disparity reflects differences in attention and concern shown toward the two groups of students by teachers in the survey area.

For the average Chicano child sitting in a classroom in the Southwest and experiencing this disparity in treatment, it is likely to mean, not only that he or she does not receive needed assistance and encouragement, but also may lead him to conclude that, somehow, his education is not as important as that of the Anglo pupils in his classroom. If in comparison to Anglo pupils, the teacher neglects the Chicano pupils, the message conveyed to the Chicanos is likely to be that they are not as important as their more privileged classmates.

OBSERVATION BY COMMISSION STAFF:

> *Mrs. M. was leading a class discussion on unions, but all the interaction was between the teacher and three Anglos sitting in the front of the class. They were very eager, but the rest of the class was bored. Mrs. M. finally said: "The same hands, I always see the same hands."*

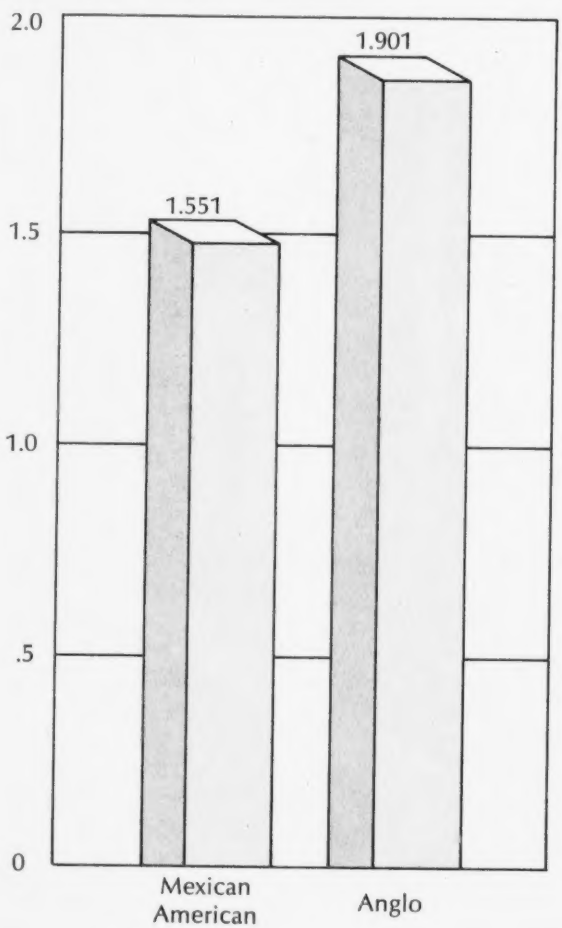
The disparity in all noncriticizing teacher talk to Chicano and Anglo students did not vary significantly across differences in any of the 22 characteristics of the school, the teacher, or the classroom. This means that approximately similar disparities were found among all those types of classrooms, schools, and teachers studied.

F. All Student Speaking

The amount of student speaking in a classroom is one important indicator of the extent to which pupils are being actively involved in the teaching-learning process. Student participation is important in the learning process for numerous reasons. Students must be able to express their interests

Figure 12

Average Amount of All Noncriticizing Teacher Talk Per Pupil Given to Individual Mexican American and Anglo Students



and discuss their experiences at certain points in classroom discussion so that the teacher can utilize these familiar elements to build motivation. To encourage independent thinking, students must be given the opportunity to express their own ideas and conclusions. At certain points in the learning process verbal practice and review are useful in aiding recall. Student participation also serves to inform the teacher of the student's progress in a situation where he can provide immediate direction and feedback.

In the classrooms in the survey area, Mexican American pupils speak significantly less often in the classroom than do Anglos. (Figure 13) *The average Anglo student spends about 27 percent more time speaking in the classroom than the average Chicano student.* This finding demonstrates that Mexican American students are much less actively involved in the teaching-learning process than are Anglo pupils.

The disparity in participation of Anglos and Chicanos results from the interrelationship of many factors, some in the student's background, some in the characteristics and behavior of the teachers, and some in the educational system itself. A detailed discussion of all of these factors is beyond the scope of this report. However, other findings presented in this report give evidence that the differential behavior of teachers toward students is at least a part of the reason Chicano pupils do not participate as much as Anglos.

Teachers ask significantly fewer questions of Mexican American students and thus give them fewer direct opportunities to participate. The disparities found in praise or encouragement, in acceptance of ideas, and in overall attention also are likely to have an influence on the amount of speaking done by the two groups of students. If Chicano students are less often made to feel that what they have to say is worthwhile or that it merits the teacher's attention, then this, in turn, will make them want to participate less.

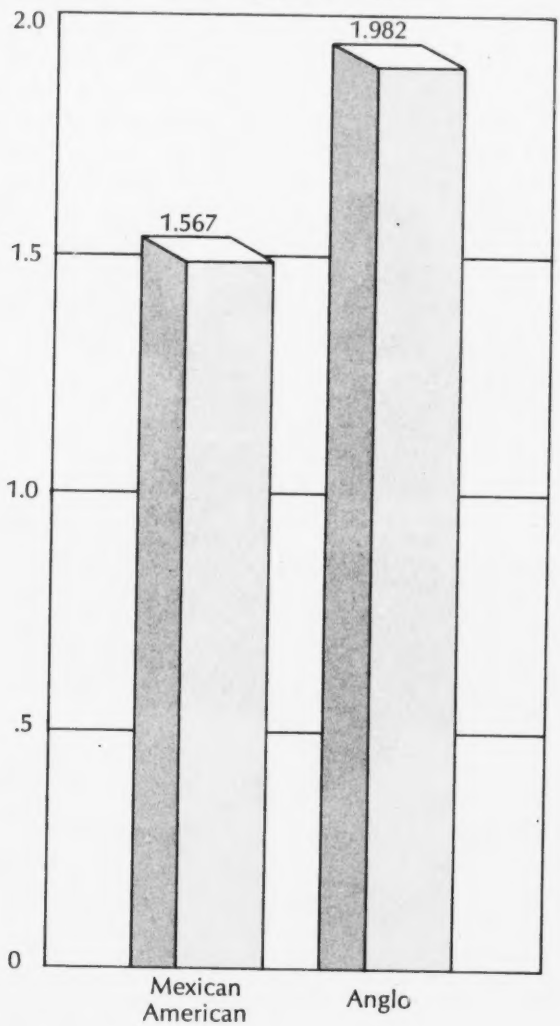
OBSERVATION BY COMMISSION STAFF:

One Chicano sat toward the back in a corner and volunteered several answers. At one

point the teacher did not even acknowledge, much less reinforce, his answer. At another time he volunteered an answer which was perfectly suitable. Yet the teacher stated: "Well, yes, uh huh, but can anyone else put it in different terms?" The teacher then called on an Anglo boy who gave the same basic response with very little paraphrasing. The teacher then beamed and exclaimed: "Yes, that's it exactly."

Figure 13

Average Amount of Speaking Per Pupil by Mexican American and Anglo Students



In order to determine whether the disparity in the amounts of speaking done by Chicano and Anglo students was any more prevalent under different conditions, the 22 characteristics of the school, the classroom, and the teacher[69] were studied for their effect on the disparity. It was found that there was no significant difference in the amount of the disparity among all categories of the 22 conditions. Thus, the average Chicano student speaks much less than the average Anglo student, regardless of the type of school or classroom, or the characteristics of the teacher.

[69] See pp. 23 and 24 for a list of characteristics.

CHAPTER IV: SUMMARY AND CONCLUSIONS

The basic finding of this report is that the schools of the Southwest are failing to involve Mexican American children as active participants in the classroom to the same extent as Anglo children. On most of the measures of verbal interaction between teacher and student, there are gross disparities in favor of Anglos.

Thus teachers praise or encourage Anglo children 36 percent more often than Mexican Americans. They use or build upon the contributions of Anglo pupils fully 40 percent more frequently than those of Chicano pupils. Combining all types of approving or accepting teacher behavior, the teachers respond positively to Anglos about 40 percent more than they do to Chicano students. Teachers also direct questions to Anglo students 21 percent more often then they direct them to Mexican Americans. In addition, Mexican American pupils receive significantly less overall attention from the teacher, measured by the extent to which teachers address their students in a noncritical way. In light of these findings, it is not surprising to have also found that Mexican American children participate less in class than do Anglos; they speak less frequently both in response to the teacher and on their own initiative. The total picture that emerges from this study of classroom interaction is one in which Mexican American students are ignored compared to their Anglo counterparts.

The classroom is the setting in which a child's schooling takes place and the interaction between teacher and students is the heart of the educational process. The importance of certain types of interaction for student learning has been documented in previous studies. It has also been explained how all elements of this interaction, taken together, create a climate of learning which directly affects educational opportunity. Consequently, the discovered disparities in teacher behavior toward Mexican Americans and Anglos are likely to hinder seriously the educational opportunities and achievement of Chicano pupils. These findings raise disturbing questions concerning the ability of our schools to meet the educational needs of all students adequately.

Some would argue that the schools and teachers are not responsible for these disparities in teachers' behavior toward Mexican American and Anglo students. They would argue that these disparities are a result of characteristics of Chicano pupils, such as differences in language and culture, attitudes toward school, and academic achievement levels.

As a group, Chicano pupils do differ from Anglo pupils in language, culture, and economic background. A large proportion of Chicano pupils enter school speaking very little English or with serious difficulties in using the language.[70] In addition, the culture, values, and familiar experiences of Chicano students often differ substantially from those of Anglo students and those on which the school program is based. The differences between the background characteristics of Chicano students and the language and culture of the schools are major obstacles to the educational progress of Chicano pupils. These discrepancies between the school and the home are one of the main causes of the lower participation and achievement levels of Chicano pupils in school.

The differences in language and culture may partly explain but cannot justify the disparities in classroom interaction documented in this report. It is the responsibility of the school and the teacher to accept the child as he comes to school and to orient the program to his cultural and linguistic needs. This, the schools of the Southwest have failed to do.

Only a very small percentage of schools in the Southwest have implemented language programs to remedy the English language deficiencies of Mexican American students. The content of the curriculum in most classrooms is designed to be relevant almost exclusively to the middle class child of the dominant society. The textbooks and source materials rarely make use of the skills and experiences which are familiar to children of Spanish speaking backgrounds. Similarly, teachers are seldom trained to incorporate the interests

[70] According to principals' estimates in the Commission's 1969 survey of schools and districts, 47 percent of Mexican American first graders do not speak English as well as the average Anglo first grader. See U.S. Commission on Civil Rights, *The Excluded Student*, *op. cit.*, p. 14.

and experiences of Chicano children into classroom discussions. In effect, the language and cultural background of Mexican American students is virtually excluded from the school programs in the Southwest.[71]

This exclusion takes its toll on the attitudes and achievement of Chicano pupils. Without the benefit of adequate language programs, many Mexican Americans fall behind academically in the early school years and are never able to catch up. The omission of their culture, values, and familiar experiences from the design of the educational program causes many Mexican American pupils to feel that the school is an alien environment with little relevance to them. These early school experiences of Chicanos thus set in motion the cycle of lowered interest, decreased participation, poor academic performance, and lowered self-esteem which is so difficult to break in the later school years. The schools bear major responsibility for this cycle of educational failure.

The failure of many schools in the Southwest to create settings conducive to the education of Mexican Americans invariably makes the teacher's job more difficult. However, there is still much that the teacher can do to encourage and help the Chicano student. The teacher can demonstrate respect for the Chicano student by incorporating the culture and personal experiences of Chicano pupils into the classroom lessons and discussions. The teacher can encourage the student's participation by accepting and building upon his contributions and can try to provide him with the help needed to keep up with the academic material. However, the disparities in teacher behavior toward Anglo and Chicano pupils documented in this report indicate that Chicanos are not receiving the benefits of these types of teacher instruction in the classroom. Instead, the pattern of teacher-student interaction only mirrors the educational neglect of Mexican American students found throughout the educational system.

It is the schools and teachers of the Southwest, not the children, who are failing. They are failing in meeting their most basic responsibility—that of providing each child the opportunity to gain the maximum benefit of education and develop his capabilities to the fullest extent. In the Commission's view, the schools of the Southwest will continue to fail until fundamental changes are made. Changes are needed in the way teachers are trained and in the standards by which they are judged, and changes are needed in educational programs and curriculums so that all children may be reached.

[71] U.S. Commission on Civil Rights, *The Excluded Student*, *op. cit.*

APPENDIX A.
SAMPLING PROCEDURE

The Commission limited data collection to classrooms in selected regions of the three Southwest States with the largest number of Mexican Americans: California, New Mexico, and Texas. Geographical areas within each of these States were selected that included rural, urban, and suburban schools in which large numbers of Mexican American students were enrolled. The areas selected were: 1) California: Santa Clara County including the city of San Jose 2) Texas: the metropolitan areas of San Antonio and Corpus Christi, the area between these two population centers, and the area 30 miles south of Corpus Christi 3) New Mexico: the Albuquerue area and the south central part of the State near El Paso, Texas. In all, there were 968 schools in these selected areas.

The sampling base included all of the schools in these areas which met the following six criteria: (1) The schools were located, as of 1968, in a district with more than 300 students. This was necessary because ethnic data used in the second criteria were not available for districts with less than 300 students.[72] (2) The schools were located, as of 1968, in a district with at least 10 percent Mexican American enrollment; this helped to

[72] The source used was the Fall 1968 Elementary and Secondary School survey of the Department of Health, Education, and Welfare.

focus on schools where there were substantial numbers of Mexican Americans. (3) The schools housed at least one of the grades upon which the Commission chose to focus its observations (fourth, eighth, 10th, or 12th). (4) The schools had an enrollment of at least 700 if they housed 10th or 12th grades, at least 500 students if they did not house 10th or 12th grade but did house an eighth grade, and at least 200 students if they did not house eighth, 10th, or 12th grades. These enrollment limitations were necessary to ensure that at least two classrooms would be eligible for observation in all selected schools. (5) The schools did not have more non-Mexican American minority students than Anglo students and did not exclusively serve military installations. This eliminated schools which are quite untypical of those usually attended by Mexican Americans. (6) The schools were not in districts recently investigated or about to be investigated by Federal civil rights agencies; this eliminated schools which were expected to be particularly apprehensive about being observed by a civil rights agency and thus would be unlikely to exhibit their normal classroom procedures.

There were 430 schools that met all of these conditions and thus were included in the sampling base. Schools were then stratified by State, grade housed (4, 8, 10, or 12), and percent of the enrollment that was Mexican American (0–24.9, 25–49.9, and 50–100). One school from New Mexico was randomly selected from each strata and two schools from California and Texas from each strata. A few high schools listed for two different grade level strata were selected twice, once from each of the two strata. In all, 52 separate schools were selected for classroom observations, 10 from New Mexico, 22 from California, and 20 from Texas.

The criteria used to define the sampling base precludes the sample from being considered representative of all schools in the three States surveyed. The extent to which the defined sampling base would differ from one representative of the whole of the three States cannot be known with certainty. The criteria that eliminated most of the schools from the sampling base were the requirements that district enrollment composition be at least 10 percent Mexican American, and the requirement that schools not be located in districts which had recently been investigated or were scheduled to be investigated by a Federal Civil Rights Agency. The first criteria biases the sampling base by including more schools with a high percentage of Mexican American enrollment than is the average for the States. The second criteria biases the sampling base by excluding numerous schools that are in districts where there has recently been strong evidence of illegal segregation or ethnic disparities in school conditions and practices. As a result, the sampling base is more typical of schools attended by most Mexican Americans than would be a sampling base that includes all schools in each State. Moreover, the sampling base has fewer schools which might be expected to have the greatest disparities between Mexican Americans and Anglos.

A number of criteria were used in sampling classrooms from the 430 schools. It was desired to limit the observation of classes to one subject area. English classes were chosen because they were expected to have more teacher-pupil interaction than classes with subjects such as math or science; these latter classes were thought to involve mostly lectures and work by students at their desks.[73] Furthermore, the English language arts were considered to be the single most important subject area for Mexican Americans, because success in all other subjects is predicated on developing skills in speech, reading, and writing.

Observations of social studies classes were substituted for those of English classes in schools which had an ungraded English program or which did not require students to take English at the grade level to be sampled.[74] The choice of social

[73] The literature suggests this conjecture was not correct; math classes tend to have the most student participation.

[74] An ungraded English program is one in which individual classes have no standard grade designation. Classes are likely to contain pupils of different ages who frequently are identified according to level of performance in English language arts rather than grade or age level.

studies classes in these cases depended upon: 1) the proportion of the students who took English when it was not required; 2) whether the school administration could identify a sufficient number of English classes whose enrollment was predominantly of children at the grade level to be sampled; and 3) whether the organization of the social studies program lent itself to obtaining a more representative sample of the student body at the appropriate grade level. Approximately 7 percent of the classes visited were social studies classes.

All fourth and eighth grade English or Social Studies classes in elementary and intermediate schools were visited. At least half of the 10th and 12th grade English or Social Studies classes were randomly sampled in the high schools. In high schools which practiced some form of "homogeneous ability" grouping of the students, the sampling design called for a random selection of at least half of the classes at each "ability" level. However, it was discovered that most schools had few high or low "ability" classes, but many middle "ability" classes. Consequently, nearly all high and low "ability" classes were included in the sample, whereas only about half of the middle "ability" level classes were selected. Provisions were made to observe each teacher with at least one eligible class. As a result of the above sampling procedures, some teachers were observed more than once. No teachers refused to be observed.

A total of 494 classrooms (80 in New Mexico, 198 in California, and 216 in Texas) were observed by Commission staff. Of these, data suitable for most analyses were obtained for 429 classes including 70 in New Mexico, 171 in California, and 188 in Texas. Observed classes were eliminated from the analyses if: (1) they were mistakenly selected; (2) the amount of collected data was insufficient for analysis; or (3) the class did not have at least one Mexican American and one Anglo student. Most classes mistakenly selected were mixed grade classes where many of the students proved not to be at an eligible grade level. Classes were eliminated because of insufficient data if the observer spent less than approximately 5 minutes coding verbal activity. Assignment of students solely to desk work for the entire observation period was another cause of insufficient data. When this occurred observers requested the teachers to interact with the class for at least 10 minutes. A few teachers failed to comply. Since a major part of the analyses of classroom interaction was devoted to the examination of possible disparities in the interactions of teachers with Mexican American and Anglo students, a classroom was not included unless there was at least one student from each group.

APPENDIX B.
DATA COLLECTION

Instruments

The data on the teacher and pupil interactions were coded with the Flanders Interaction Analysis Categories. The Flanders system was chosen because it focuses on teacher behaviors most directly related to encouraging and involving students in the learning process and because it is the single most widely used classroom observation system in education research. It includes 10 categories of behavior which are summarized in Figure 14.

Data were collected on a number of teacher, classroom, and school characteristics associated with each observed classroom. This information was gathered so that an analysis could be made attempting to relate these characteristics to possible disparities in teacher behavior toward students of different ethnic groups. Most of the characteristics were chosen for analysis because of their alleged importance to the quality of instruction, to student achievement, or to human interaction.

Data on classroom characteristics were collected by observers' visual inspection. A brief (less than 5 minutes) interview with the teacher at the end of the instructional period provided additional information. The forms used to collect these data are shown in Appendix F which begins on page

Figure 14

Summary of the Flanders Categories for Interaction Analysis

TEACHER TALK	INDIRECT INFLUENCE	1. ACCEPTS FEELING: accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting and recalling feelings are included.
		2. PRAISES OR ENCOURAGES: praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying "uhhuh?" or "go on" are included.
		3. ACCEPTS OR USES IDEAS OF STUDENT: clarifying, building, or developing ideas or suggestions by a student. As teacher brings more of his own ideas into play, shift to category five.
		4. ASKS QUESTIONS: asking a question about content or procedure with the intent that a student answer.
	DIRECT INFLUENCE	5. LECTURING: giving facts or opinions about content or procedure; expressing his own idea; asking rhetorical questions.
		6. GIVING DIRECTIONS: directions, commands, or orders with which a student is expected to comply.
		7. CRITICIZING OR JUSTIFYING AUTHORITY: statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing, extreme self-reference.
STUDENT TALK		8. STUDENT TALK-RESPONSE: talk by students in response to teacher. Teacher initiates the contract or solicits student statement.
		9. STUDENT TALK-INITIATION: talk by students, which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category.
		10. SILENCE OR CONFUSION: pauses, short periods of silence, and periods of confusion in which communication cannot be understood by the observer.

Source: Edmund J. Amidon and Ned Flanders, *The Role of the Teacher in the Classroom: A Manual for Understanding and Improving Teachers' Classroom Behavior*, Minneapolis: Paul S. Amidon Associates, 1963, p. 12.

64. Data on the ethnic composition of the schools were collected from an interview with the principal; often school records were consulted to assure accuracy. Information on the socioeconomic status (SES) of the parents of the school's student body was collected by requesting the information from the principal in a short questionnaire mailed to the principal after the classroom observation had been completed.[75] (See Appendix G which begins on page 66.)

Coding Procedures

The coding procedures were as follows: The observer entered the room at the beginning of an instructional period and took a seat, usually in the back of the classroom, but occasionally to one side. The first several minutes were used to fill in a seating chart indicating the location of all chairs in the classroom and the ethnicity of each occupant.[76] If the class started with organizational tasks such as roll calls, the handing in or returning of papers, or similar tasks, the observer used that time to code a number of characteristics of the teacher and classroom which could be ascertained visually. If the class started with instructional interactions between the teacher and the students, the observer started coding those interactions as soon as the seating chart was completed, and coded the other characteristics later.

Ten minutes were used to code the classroom interaction. At a fixed rate of once every 3 seconds the observer marked a tally on the coding form under the most appropriate behavior category and participant designation. An additional tally was also marked whenever a change in the type of classroom interaction occurred in the middle of the 3-second coding interval.[77] Also, when a teacher asked a question to a group of students or to the class as a whole and then called on an individual student to respond, the question was first coded as directed to the class as a whole, and then an additional tally in the questioning category was marked under the ethnicity of the student designated to respond.

In a few cases, before the 10 minutes of coding could be completed there was a suspension of the normal classroom interaction for such activities as listening to a recording or having the students do a work assignment at their desks. When this happened, the observer stopped coding and resumed when there was again some teacher-pupil interaction.

This 10-minute segment of a classroom's instructional process is not considered to be representative of the instructional process in any individual class. However, a sample of 10-minute observations from a large number of classrooms is likely to be representative of the interaction of classrooms in the sampled population.

At the end of the class session the observer spoke with the teacher for a few minutes to collect information about the teacher's training and the criterion used in assigning students to seating positions. Occasionally observers also checked with the teacher about their perception of a student's ethnicity.

There were five observers. An additional staff member, using a course schedule obtained from the school or district, was responsible for assigning observers to classrooms. The course schedules included the following information on all classes: name of teacher, grade, track level (if tracked), room number, course title, and time of meeting. In addition, at the fourth grade level, the schedules indicated the time of day English language arts were taught. The staff member scheduling observers tried to assure that each observer was assigned an equal proportion of teachers by sex and ethnic background and an equal proportion of classrooms by track and grade level. Tests on the data indicated that this effort was successful.[78]

[75] The decision to collect this data was made after the observers had returned from the Southwest.

[76] When the first few schools were observed, the observer checked their perceptions of the students' ethnicity with the teacher's perceptions. In a few cases light haired Mexican Americans appeared to be Anglo and some American Indians appeared to the observers to be Mexican Americans, but usually the observers could make the proper distinctions if the child spoke during the observation period. Consequently the procedure was revised so that observers only checked their perceptions of the students' ethnicity with the teacher when they were not reasonably confident of their accuracy.

[77] This is a standard coding convention of the Flanders system.

[78] Chi-square tests at the .01 level of alpha error.

APPENDIX C.
DATA PREPARATION AND VARIABLES FOR ANALYSIS

The coding form for observing classroom interactions had 11 categories of interaction. These categories were coded for five distinctions of participants: individual Mexican American student; individual Anglo student; individual black student; individual student of another ethnicity; and a group of students or the class as a whole.[79] The interactions associated with black students and students of "other" ethnic groups were not analyzed because of the extremely small number of such students. The interactions associated with a group of students or with the class as a whole were also not analyzed because this study was intended to focus on possible disparities between students of different ethnic groups.

The nine measures for Chicano students and the nine for Anglo students were modified in five ways to create the indices of classroom interaction behaviors which were to be analyzed. (1) The basic measures were corrected for variations in the total number of tallies for each observation of a classroom. Observers were trained to code with approximately one tally every 3 seconds for 10 minutes, and they used stopwatches to guide their coding frequency and the duration of coding. For a number of reasons, not all coding sessions resulted in exactly 200 tallies. The previously discussed coding procedures (on page 50) account for some of these reasons. Also, in some cases the class period ended before the observer could complete 10 minutes of coding. All classes for which observers had less than 100 tallies were eliminated from the sample. All measures for the remaining classes were corrected to a standard 200 tallies by multiplying each of the 18 basic measures by (200/total number of tallies for observation of that class.) This eliminated the inter-classroom variation that was due to the total number of tallies.

(2) Four compound measures were created for

[79] See Figure (1) on p. 13.

Chicano and Anglo students from the basic nine categories. A measure of total positive feedback was constructed by combining categories 1, 2, and 3 (teacher accepts students' feelings, teacher praises or encourages students, and teacher accepts or uses students' ideas). This combines all the behaviors which motivate a student to continue or improve on what he is doing. A measure of total noncriticizing teacher talk was constructed by combining all categories of teacher talk except the one of criticizing or justifying authority (Category 7). A measure of total student talk was made by combining Categories 8 and 9 (student response talk and student initiated talk). And a measure of the indirectness of teacher behavior was constructed by adding the first four teacher behavior categories (acceptance of students' feelings, praise or encouragement, acceptance or use of students' ideas, and questioning) and dividing this total by the sum of all teacher behaviors. The first four teacher behaviors are considered indirect because they seek or encourage student initiative in the learning process. The remaining three teacher behaviors are considered direct, because they manage or control the learning process for the student.

(3) The Mexican American interaction measures and the Anglo interaction measures for each class were converted to average per pupil measures by dividing the total number of tallies for each interaction behavior for each ethnic group by the number of students of that ethnicity in that class. This was necessary because different classrooms had different numbers of Mexican Americans and Anglos. For example, in a class with a large proportion of Chicano students, it is expected that there will be substantially more interactions directed by the teacher to Chicanos than in classes where there is a small proportion of that ethnic group. The only unit of analysis that is comparable for all classrooms is the average student of each ethnic group.

The measures of indirectness of teacher behavior toward the average Mexican American and of indirectness of teacher behavior toward the average Anglo were discovered to be invalid for a number of classes, and were consequently dropped from the analysis.[80]

(4) Mexican American and Anglo per pupil measures were corrected for class size. The total number of tallies should be unaffected by class size, but per pupil measures will be. This is because teachers have a relatively fixed amount of time to interact with individual students, so the more students there are in the class, the less time the teacher will have to interact with each one. The purpose of controlling for class size is not to deny its importance on the per pupil measures. The correction for class size was made by multiplying each per pupil interaction measure by class size divided by 25.[81] This standardized the per pupil measures to the equivalents for a class size of 25, which was the mean class size for the sample. This control does not prevent studying the relationship which class size might have on the standardized per pupil measures.

(5) A final major modification of the data was to construct difference scores for each classroom from each of the 12 per pupil measures for Mexican Americans and the corresponding per pupil measures for Anglos.[82] This allowed the elimination of student ethnicity as a separate factor when studying the differences in per pupil measures of Mexican Americans and Anglos in relationship to school, classroom, and teacher characteristics.

A total of 36 interaction variables are developed from the above process. They are listed in Figure 15.

Data on teacher, classroom, and school characteristics were converted into 22 indices of these characteristics, (listed on pp. 23 & 24 of the text). The construction of these indices and the reasons for examining them in this study are discussed below.

[80] The calculation of this measure resulted in division by zero for a number of cases.

[81] Control could have been induced by either correcting the per pupil measure for class size or conducting all analyses with class size as a crossed factor. To have controlled by use of size as a crossed factor would have required two way analysis of variance with unequal cell size. A seldom mentioned characteristic of the popular computer programs which do such analyses is that they will sometimes yield highly erroneous results if the cell are not approximately equal in size.

[82] The per pupil measures for Anglos were used in this study just to construct these difference scores; they were not directly analyzed.

Figure 15

Classroom Interaction Behavior Indices Used in the Analyses

Average Mexican American Per Pupil Measures

1. Average teacher acceptance of Mexican American students' expressed feelings
2. Average teacher praise or encouragement of individual Mexican American students
3. Average teacher acceptance or use of individual Mexican American students' ideas
4. Average teacher questioning of individual Mexican American students
5. Average teacher lecturing to individual Mexican American students
6. Average teacher giving directions to individual Mexican American students
7. Average teacher criticizing of individual Mexican American students
8. Average response talk by individual Mexican American students
9. Average initiated talk by individual Mexican American students
10. Average teacher positive feedback to individual Mexican American students
11. Average noncriticizing teacher talk to individual Mexican American students
12. Average of all talk by individual Mexican American students

Average Anglo Per Pupil Measures

1. Average teacher acceptance of Anglo students' expressed feelings
2. Average teacher praise or encouragement of individual Anglo students
3. Average teacher acceptance or use of individual Anglo students' ideas
4. Average teacher questioning of individual Anglo students
5. Average teacher lecturing to individual Anglo students
6. Average teacher giving directions to individual Anglo students
7. Average teacher criticizing of individual Anglo students
8. Average response talk by individual Anglo students
9. Average initiated talk by individual Anglo students
10. Average teacher positive feedback to individual Anglo students
11. Average noncriticizing teacher talk to individual Anglo students
12. Average of all talk by individual Anglo students

Measures of Difference Between Average Mexican American Per Pupil Measures and Average Anglo Per Pupil Measures

1. Difference in teacher acceptance of Mexican American and Anglo students' feelings
2. Difference in teacher praise of Mexican American and Anglo students
3. Difference in teacher acceptance or use of ideas of Mexican American and Anglo students
4. Difference in teacher questioning of Mexican American and Anglo students
5. Difference in teacher lecturing of Mexican American and Anglo students
6. Difference in teacher giving directions to Mexican American and Anglo students
7. Difference in teacher criticizing or justifying authority to Mexican American and Anglo students
8. Difference in response talk by Mexican American and Anglo students
9. Difference in initiated talk by Mexican American and Anglo students
10. Difference in teacher positive feedback to Mexican American and Anglo students
11. Difference in noncriticizing teacher talk to Mexican American and Anglo students
12. Difference in all talk by Mexican American and Anglo students

Data on the State in which the classrooms were located were used to test for possible differences between geographical areas. References to State are actually references to the limited geographical areas from which schools were sampled in each of the three States. Grade and subject were included because they are often considered important to pedagogical techniques and it was of interest to discover whether they affect the actual teacher-pupil interaction.

Characteristics of the teacher, such as educational attainment, inservice training, ethnicity, age, and sex, were included because of their possible relations to differences in teacher behavior toward pupils. Personality or attitudinal characteristics of the teacher would also have been desirable variables for investigation, but the short time available for interviewing each teacher precluded valid measures of these characteristics.

The school enrollment figures for each ethnic group of students were converted to measures of the Mexican American percentage of school enrollment and Anglo percentage of school enrollment. Class enrollment figures for each ethnic group were converted to measures of Mexican American percent composition of the classroom and Anglo percent composition of the classroom.[83] Previous research indicates that the minority ethnic composition of schools is related to a number of characteristics of the school, including teacher morale, student attitudes, and student achievement.[84] Furthermore, it is well known that ethnic background of people in small groups affects their interactions in those groups. Consequently, it seemed likely that the ethnic composition of the school and classroom would be related to possible disparities in teacher-pupil behaviors associated with Mexican American and Anglo students.

Data were collected as to whether each observed classroom was tracked; and if so, whether it was a low, medium, or high track.[85] Tracking is the practice of assigning students to classrooms so as to make class enrollments more homogeneous in respect to some purported measure of the students' ability or performance. It was of interest to see how the practice of tracking, which many school officials claim is for the benefit of all students, affects teacher-pupil interactions among Mexican American and Anglo students.

A measure of the degree of ethnic concentration was constructed by computing the variance of the Anglo ethnic composition of all classes observed in a given school. This indicates the extent to which Anglo and minority students in a given school are separated into different classrooms. Racial or ethnic segregation between schools has historically been associated with unequal distribution of educational resources. It was thought that the segregation of students within schools might also be associated with inequities in teaching.

During the classroom period, observers filled out a seating chart (See p. 65) which indicated the position of each seat in the classroom and for those seats that were occupied, the ethnicity of its occupant. Data on the seating placement of students of each ethnic group were used to construct separate seating indices for Mexican American and Anglo students for each class. Seating positions were defined in reference to the primary location of the teacher and the arrangement of the students' seats. Usually the teacher was in the front center of the classroom, but was occasionally in one corner or to a side. Prime seats were defined as those in a "T" pattern with the teacher located in front of the intersection of the two bars (See Figure 16). The standard "T" pattern consisted of a column of three seats intersecting the first row in front of the teacher's primary position, with one front row seat on each side of the point of intersection. If the teacher's primary position was centered between two columns of seats an expanded "T" pattern was used, consisting of a double column three seats deep and with one front row seat on either side of the column. When the expanded "T" was used, each seat counted only 5/8 in order to be equivalent in weight to the seats in the standard "T" pattern. If the teacher's primary

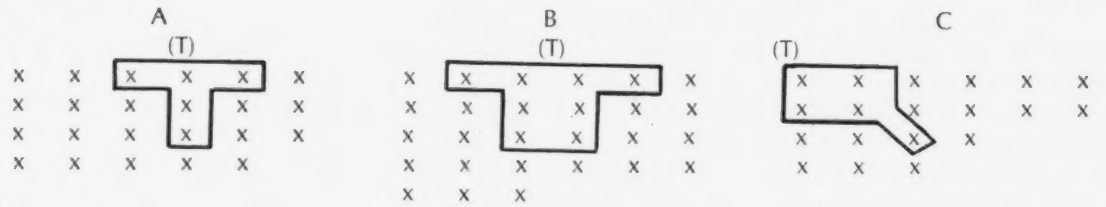
[83] During the analysis it became apparent that these measures were almost complementary for the classrooms and schools in the Commission sample.

[84] Guthrie, *et. al.* Ch. 4.

[85] Coded at the top of the classroom Protocol form (Appendix F) on the line following "AG". See p. 64.

Figure 16

Definitions of Prime Seats in Classroom Seating Patterns



Standard "T" Expanded "T" Diagonal "T"

(T)=Teacher

position was in a corner of the room a diagonal "T", similar to the standard "T" but focusing on a corner, was used to define the prime seats.

The back row was considered the last row of occupied seats. If the last row of seats had more than one seat and at least one occupied seat, its seats were coded as back row seats. But if the last row had just one seat and it was occupied, it was coded as an isolate seat, and the next row forward with at least one occupied seat was coded as the back row. Isolate seats also included any occupied seats with no occupied seats in front, behind, or on either side of them. In a few cases where a circular seating arrangement was used, no students were coded as being in the "T" or in the back row.

The index was constructed by assigning a value of 1.0 to prime seats, 3.0 to back row seats, 4.0 to "isolate" seats, and 2.0 to all other seats. The Mexican American seating index equaled the sum of the number of Mexican Americans in prime seats times 1.0, plus the number of Mexican Americans in back row seats times 3.0, plus the number of Mexican Americans in isolated seats times 4.0, plus the number of all other Mexican Americans times 2, all divided by the number of Mexican Americans in the classroom. The Anglo seating index was constructed in a similar manner.

This index is a measure of seating priority for Mexican Americans and Anglos in a classroom. Previous research indicates that the students in prime seats tend to be involved in about 50 percent of all classroom teacher-pupil interaction, which is a large percentage considering that prime seats are defined as being five seats of a normal 20-30 seats.[86] Consequently, this appeared to be a potentially important variable when analyzing interaction data.

Data on the criteria by which students are assigned or allowed to choose their seating position were also collected. Seating criteria were divided into five categories: student choice, student choice with teacher modification (teacher modification was usually to correct discipline problems), alphabetical order, homogeneous "ability" grouping, and other methods of teacher choice. It was thought that these criteria would reflect the teacher's attitudes toward the students and influence student expectations, both of which may be manifested in the teacher-pupil interactions.

Data were collected from each school on the percent of students from each ethnic group who came from families with an annual income of less than $3,000 and greater than $10,000, and from families where the head of the household has had eight or less years of education, a high school education, and a college education. These variables were used to construct an index of the socioeconomic status (SES) of the Mexican Americans in each school, an index of the SES of Anglos in each school, an index of the difference between the Mexican and Anglo SES, and a school average

[86] Raymond Adams and Bruce Biddle, *Realities of Teaching*, New York: Holt, Rinehart and Winston, Inc., 1970, pp. 49-51.

SES index. The average of the percent low education and the percent low income was used to make the SES indices. The school average index is a weighted average of the Mexican American and Anglo indices.[87] Thus, the SES indices are really measures of low SES, (i.e., the higher the index the larger the percentage of families of low SES). The socioeconomic status of a student's parents has repeatedly been proven to be the single characteristic most strongly associated with student academic performance in schools as they are now constituted in this country. Consequently, it was of interest to determine if SES is also associated with differences in teacher-pupil interactions.

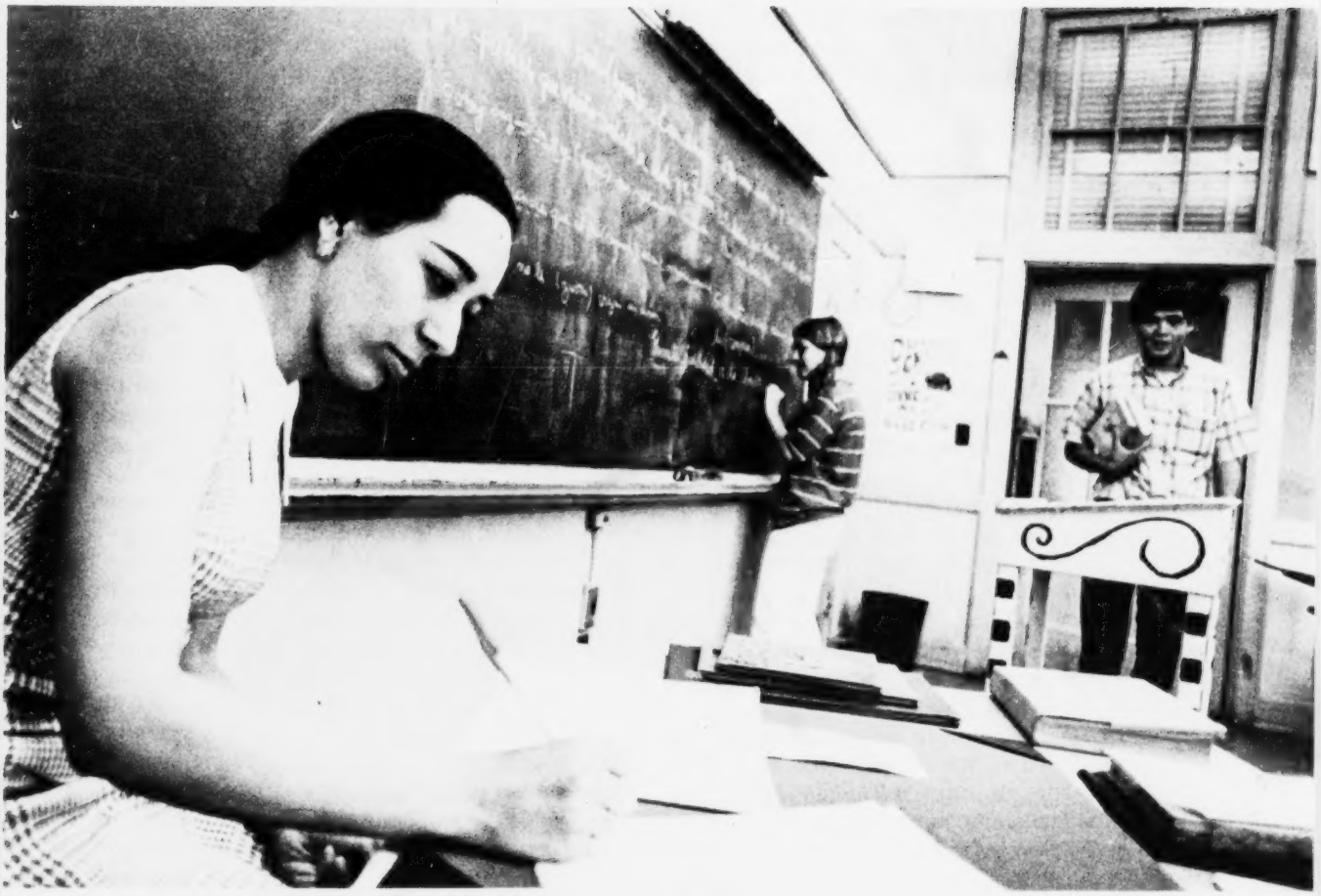
Twelve of the above indicated 22 measures of school, classroom, and teacher characteristics are interval measures. For the purpose of most of the analyses they were converted to categorical measures. Figure 17 shows the cutoff points used when this was done.

[87] Because the schools in the sample had few students of other ethnic groups this index is a good estimate for the whole school.

Figure 17

Category Cut-Off Points For Interval Measures of School, Student, and Classroom Characteristics

Teacher Age:	20-29, 30-39, 40-49, 50-100
School Percent Mexican American:	0-29.9, 30-49.9, 50-100
School Percent Anglo:	0-44.9, 45-67.9, 68-100
Mexican American Seating Index:	1-1.92, 1.93-2.09, 2.10-4.0
Anglo Seating Index:	1-1.92, 1.93-2.09, 2.10-4.0
Class Percent Mexican American:	0-22.1, 22.2-36.9, 37-59.9, 60-100
Class Percent Anglo:	0-32.9, 33-58.9, 59-75.9, 76-100
Class Size:	0-17, 18-22, 23-27, 28-41
Ethnic Concentration In School:	0-84.9, 85-214.9, 215-1000
School Mexican American SES:	0-22.5, 22.6-38.8, 38.9-100
School Anglo SES:	0-6.2, 6.3-13.8, 13.9-100
School Average SES:	0-11.0, 11.1-30.0, 30.1-100
Difference Between the Mexican American SES and the Anglo SES:	0-14.0, 14.1-22.5, 22.5-100



APPENDIX D. THE ANALYSES

The disparities in the classroom behaviors between the average individual Anglo and the average individual Mexican American in each class were studied with the matched sample t test. The difference scores were constructed by subtracting the average Anglo per pupil measure of a given behavior in each classroom from the corresponding Mexican American per pupil measure. There were 12 such tests, one for each of the 12 per pupil behaviors. This was done because the matched sample t test was expected to provide a more powerful test than would have been provided by one-way analysis of variance using student ethnicity as the classifying factor.[88] Furthermore, the investigation of the relation of the teacher, classroom, and school characteristics to the disparities between students of the two ethnic groups was made conceptually more simple by the use of the difference scores than it would have been by testing the interaction effect in a two-way analysis of variance model.

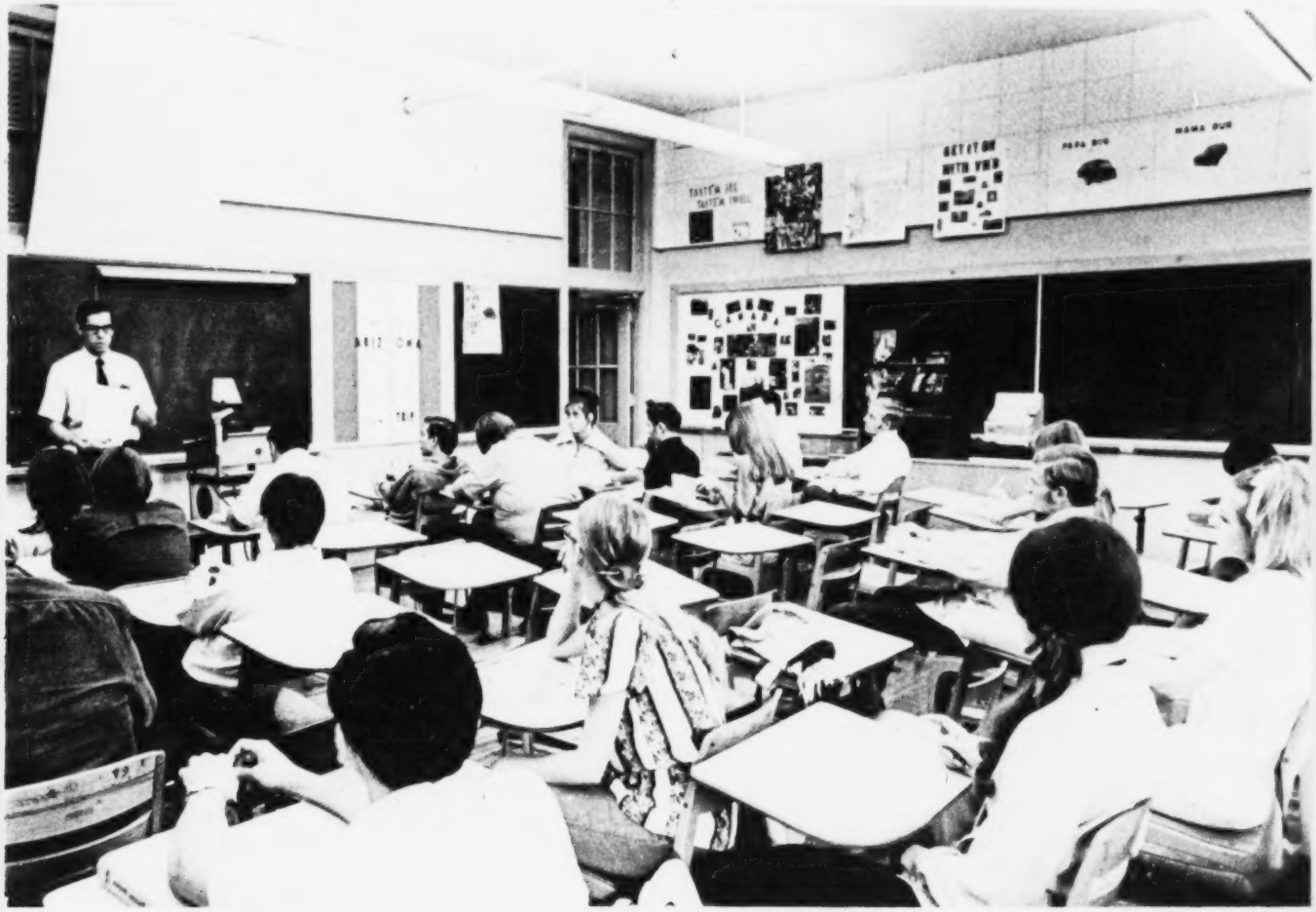
[88] The matched sample t test is more powerful than the two sample t test only when there is at least moderate covariance between the measures for which the difference scores are calculated. This seemed likely because all students in a classroom do have the same teacher, but it was not empirically known prior to the data analysis. Therefore, all 12 of the matched sample t tests were replicated using the two sample t tests for independent samples; the results indicated that the matched sample t test was in fact the more powerful one for these data.

Significant disparities in teacher behavior exhibited toward Anglo and Chicano pupils were also studied for possible relationships to the 22 teacher, classroom, and school characteristics. The research question was whether certain levels or categories of any of the characteristics might account for most of the total disparity in a given classroom behavior.[89] There is no simple test of this question. The extent to which the disparity in any one category or level of a characteristic can account for the total disparity in a classroom behavior is dependent on a number of factors. These include: the mean value of the disparity, the standard deviation of the disparity, the number of the cases in that category or level, and the value of these statistics relative to those of the other categories or levels. One possible approach of analysis is to do independent tests for the significance of the disparity in each category or level of each characteristic and then make deductions based on the results and the relative number of cases in each category or level. This approach manages to combine the bad features of high alpha error (because of the large number of tests) and low power (because of the relatively small degree of freedom due to making each test on only a small part of the sample). The alternative approach of analysis is to test for significant differences in the magnitude of a disparity within classrooms across levels or categories of each characteristic and then make deductions based on the results and the relative Ns. The latter approach was used in this study because it has higher power and lower alpha error than the former one.

[89] The term "overall disparity" will be used to refer to a significant difference between Mexican Americans and Anglos within classrooms for all 429 classrooms taken together.

A number of additional analyses were conducted to help interpret the results in the above outlined tests. First, all the pairwise associations between the 22 conditions were investigated by chi-square tests. (See Appendix H, Display 1, p. 67.) Second, all of the analyses of the possible relations of significant disparities within the classroom to the 22 teacher, classroom, and school characteristics, were replicated using Mexican American per pupil scores as criteria in place of the Mexican American-Anglo difference scores. This provided insight into whether discovered variations in the per pupil difference scores across categories or levels of a given condition are the result of variations in the Mexican American per pupil measures, the result of variations in the Anglo per pupil measures, or the result of both types of variations. Third, the associations between the classroom coder and the 22 conditions were tested by chi-square to investigate possible biases in the assignments of coders to classrooms. Fourth, each of the 12 difference scores were tested for differences between coders by one-way analysis of variance with coder as the classifying factor and each behavior measure as a criterion. Fifth, Dunn's pairwise multiple contrast and Scheffe's linear trend contrasts were used as post hoc procedures for the analysis of variance tests. Sixth, all pair-wise correlations between the various categories of interaction were calculated to show the interrelationships between these measures. (See Appendix H-3 on p. 68). All statistical tests were conducted at the .01 level.[90]

[90] The total disparities in interaction were appriori hypothesized to be positive except for directions and criticism; they were analyzed with one-tail tests.



APPENDIX E.
SOURCES OF POSSIBLE BIAS

A bias is a tendency to err in a given manner. There are three major sources of possible biases in classroom observation studies: coding biases of observers, obtrusive biases caused by the observer's presence, and sampling biases. Both general and specific problems of this study concerning each of these possible sources of bias are discussed in the following sections.

Possible Coding Biases

Coding biases can be intentional or unintentional. It is usually presumed that the researchers are not intentionally biased, but sometimes such deceptions are discovered. The more common concern is that researchers are unconsciously biased in their observations due to their expectations or other subconscious needs. An observer who wants to discover a certain pattern of behavior may operate with perceptions biased in favor of finding that pattern. Or a person with serious personal problems in handling a certain type of interaction may not correctly perceive instances of that type of interaction.

All observers in a study may be biased in the same manner, all may be biased in different ways, or some may be biased and others unbiased. Observers may be biased in only one dimension of the coding scheme, in more than one dimension, or in a compound manner, as in a statistical interaction of two or more variables. An example of the latter would be if a coder tended to code Category 3 behaviors of the Flanders form as Category 2 behaviors for Anglo students but did not code the behavior of Chicano students in this manner.

Observer biases may be what shall be called specific or nonspecific and reciprocal or nonreciprocal. A specific bias is the result of misper-

ceptions in a consistent direction, such as the tendency to code Category 3 behaviors as Category 2. It is the direction that must have some consistency. There need not be consistent misperceptions for a coding bias to be specific. A nonspecific coding bias is one where the coder marks too few or too many tallies in a given category, but not as a result of misperceptions in a consistent manner. For instance, the observer may not tally as many Category 3 behaviors as he or she should, but when doing so does not over tally in just one or two other categories. A reciprocal bias is one in which two categories are incorrectly tallied, but in a manner that tends to cancel out errors in the sum of the tallies. For instance, an observer may easily tend to confuse behaviors in Categories 2 and 3; if so, he will sometimes code Category 3 behaviors as Category 2 behaviors, but he will also sometimes code Category 2 behaviors as Category 3 behaviors. For the errors to completely cancel the product of the frequency of the behavior times the frequency of the error must be equal for both categories. A nonreciprocal observer bias is one in which one behavior is sometimes incorrectly coded as a second behavior, but the second behavior is seldom, if ever, incorrectly coded as the first behavior.

Most observational category systems are ipsitive; that is, if one category is overtallied, some other category or categories have to be undertallied. This creates further complications in the effects of the above discussed forms of observer bias. However, ipsitivity should be thought of in terms of degree rather than as an absolute, and the degree is inversely proportional to the number of options in the bounded set. Consequently, observational systems which have a substantial number of categories do not have serious problems with ipsitivity.

The last important characteristic of observer bias is that biases among observers may compound or cancel out one another. They tend to cancel out each other when all of the following conditions are present: (1) Some observers are biased in an inverse manner and equal extent as some of the other observers; (2) observers are assigned to classes at random; and (3) each observer codes a substantial number of classes. Under these circumstances, observer biases may have little effect on statistics of the collected data.[91]

Coding biases can be controlled in two ways. Coding systems and training can be designed to minimize the likelihood of bias, and checks can be used to detect coding biases during the actual observations so that biased observations can be corrected, eliminated, or taken into account when interpreting the results.

Coding systems which have categories that are mutually exclusive, all inclusive, and have explicit coding conventions will help minimize the likelihood of unintentional coding biases. Thorough training with constant feedback and analysis of the source of error also is important for minimizing coding biases.

Both the category system and training used in this study should have been highly conducive to minimizing coding bias. The Flanders system is a systematic coding procedure. Its categories are mutually exclusive and taken as a whole are all inclusive. Only a few coding conventions are needed to code most classroom interactions with this observation system.

The person who trained the Commission observers was an Anglo who had not conducted any studies on ethnic disparities in the classroom interactions, and had no reason to think that the Commission would again in the foreseeable future conduct studies which would offer him consulting opportunities. He played no part in the study other than to train and check the coders' proficiency. Consequently, there is no apparent reason to suspect that he trained the observers to code in a biased fashion.

The trainer provided substantial feedback to the observers during all phases of their training. Before starting the data collection, all test codings of the five observers showed a minimum of .85 reliability with the trainer's coding, except in one case which the trainer thought involved a class

[91] Such biases will always have some effect on the inferential statistics because they increase the error variance which reduces the chance of finding statistically significant differences when testing hypotheses.

session particularly difficult to code.[92] Most test sessions yielded reliability coefficients exceeding .90. On two occasions during the course of the actual field work, the five observers did additional test coding to calculate their reliability with the trainer. In all but one instance the reliability coefficients exceeded .90, and again, in that one case the trainer felt the classroom session to be unusually difficult to code.

Reliability was measured by Scott's Pi coefficient. The Scott's Pi coefficient is used to determine the degree of correspondence between two coders; a value of 1.0 indicates perfect correspondence and a value of 0.0 indicates no correspondence. These checks of reliability yielded results ranging from .8 to .9, which is unusually high for observers using the Flanders system. These high results are probably due partly to the intensive training, and partly to the fact that coder reliability was calculated between each observer and the trainer rather than between observers as is usually the case and which is likely to yield somewhat lower reliability estimates.

The Scotts Pi reliability coefficient was designed to calculate intercoder reliability without student ethnicity distinctions in the coding. When the coder reliability checks were conducted for this study, the data for each behavior were summed across the different student ethnicities and the class as a whole distinctions. This procedure is inadequate for testing the possibility of coder biases related to student ethnicity. It was used only to calculate a summeric statistic of overall coder reliability.

In each reliability check session the trainer examined the difference between the number of tallies in each cell of his coding sheet and the number of tallies of the corresponding cell of the observer's coding sheet. The trainer reported that he did look for biases associated with student ethnicity, but that none were apparent from the examination of the coding sheets. Unfortunately, these coding sheets were lost; therefore, statistics could not be calculated to confirm the trainer's report. However, a post hoc analysis of the collected data suggests that there were no serious coding biases related to student ethnicity. (See p.62 of this appendix).

The best way to check for coding biases during actual observations is to have an objective standard simultaneously code classroom observers. There are two serious problems with this method. The first is that it is almost impossible to validly presume that any observer can be an objective standard by which to judge the other observers. The best that can be done is to use a person as a standard who is thought least likely to be biased. The second problem is that if the person serving as an objective standard could accompany all the observers during each of their coding sessions it would be unnecessary to use any observers other than the objective standard. If the objective standard only spot checks the observers, it should be done in such a manner that the observers are not aware that they are being checked. This must be done so that they will not strive to be particularly sharp or alert when checked, but less attentive when they know they are not being checked. However, for a person to complete such a spot check without the observer knowing he is being checked is very difficult. It requires specially designed observation rooms or the use of television and audio equipment in classrooms.

Another approach to checking for coding biases during actual observations is to put two observers in a classroom at the same time but in positions so that they cannot see each other's codings. The problems with this method are that it will not detect biases which are being induced in a similar fashion by both observers and, when there are differences between observers, it is difficult to determine which one of the two is biased, or whether both are biased, but in different ways. Furthermore, two observers in a classroom are more likely to make the teacher and students anxious than is one observer, thus increasing the chance of obtrusive bias. (See pp. 62 & 63 in this appendix.)

A third approach is to have different observers code the same class at different times. But since classroom interactions vary a great deal from hour to hour, it would be necessary for each observer

[92] Reliability for this session was .78.

to observe the same class many times. This would not be feasible except for intensive or longitudinal studies. This approach also has the problem that when differences between observers are indicated, it is not known which of the observers is biased. In addition, differences between observers may be due to differences in the obtrusive effects they have on the class rather than on coding differences.

A fourth approach to use in checking for coding biases among observers in actual classes is to assign observers to classrooms at random and have each observer code a large number of classes (but with each class observed by only one coder). Then each observer's average codings are compared with the average codings of other observers. This approach has problems of interpretation that arise both from comparing observers to each other rather than to an objective standard, and from possible differences caused by the obtrusive effects of different observers. Also, as with any random sampling, there is always a small chance that the random assignment of observers to classes will not result in each observer getting a comparable sample of classes.[93]

Despite problems with this approach, it provided the best check for coding bias that could be made for this study. Observers were not assigned to classrooms in a truly random manner, but the method was such that it could be expected to have the same effect for the purposes of this check. All observers were assigned to classrooms by a team leader not involved in the observing who tried to assure that all observers were assigned an equal proportion of Spanish Surnamed and Anglo teachers, male and female teachers, an equal proportion of classrooms of varying track characteristics (untracked, and low, medium, or high tracked), and an equal proportion of classrooms at each grade level observed (4, 8, 10, and 12). The only other information known when assigning observers to classes was the time and room number of the class and the name of the teacher. Statistical tests indicate that the efforts to assign observers equal proportions of the above enumerated characteristics were successful.[94]

The difference in tallies regarding the behavior of Mexican Americans and Anglos in each classroom was compared among coders for each of the 12 behavior measures. There was a significant difference among coders on only one behavior—praise. It existed only between the observer who coded the difference as being least favorable for Mexican Americans and the observer who coded the difference as being most favorable for Mexican Americans. Probably the hardest distinction to make in the Flanders Coding System is between the different categories of positive feedback. As there was no significant difference between observers on the compound category of positive feedback (sum of Categories 1-3), the significant difference between the observers appears to be mainly due to reciprocal biases within the three categories of positive feedback.

The lack of differences between observers in the coding indicates that if there were coding biases related to student ethnicity, they had to have been made in the same direction and to the same extent by all five observers. This seems quite unlikely, especially since the observers were from different ethnic or racial backgrounds and two of them had no knowledge of or experience with the education of Chicanos before being assigned to work on this study.

Possible Obtrusive Biases

Obtrusive biases are caused when the presence of an observer in the classroom induces the teacher or students to change their normal interaction patterns. The nature of the obtrusive affects are dependent upon the characteristics of the observer, the teacher, and the students. Obtrusive biases may affect the teacher's behavior, the students' behavior, the behavior of the teacher in interaction with student characteristics (that is, a statistical interaction) the teacher's behavior in interaction with the teacher's characteristics, or student behavior in interaction with the student's characteristics. An example of the latter would be if

[93] This chance is minimized by having each observer code a large number of classrooms. In this study the smallest number of classrooms observed by any coder was 53.

[94] Chi-square tests at .01 level.

Mexican American students, and only students of this ethnicity, tended to initiate more speaking when being observed by a coder. There may also be an interaction effect between the observers' characteristics and the characteristics of the teacher or the students. An example of this would be if Mexican American students tend to initiate more speaking when observed by a Mexican American coder, but not when the observer is of another ethnicity, while Anglo students do not initiate more speaking when there is an observer in the class, regardless of his ethnicity.

Obtrusive biases can be minimized by having the observer's visit announced in advance, attempting to insure that the observer is not perceived by the teacher or students as being biased against them or having power over their welfare, and by having the observer become familiar to the class before he starts coding.

The first condition was met; the teachers were informed by the principal a day or two in advance that they would be visited by an observer. It was not possible to meet the other conditions adequately. It would have been most difficult to keep the teachers from knowing that the observers were from the U.S. Commission on Civil Rights. Furthermore, the observers were of three different ethnic groups. The ethnic identity and employment affiliation of the observers undoubtedly had the effect of their being perceived negatively by some of the teachers. Moreover, the plan to visit a large number of classrooms precluded preliminary visits which would have allowed the observer to become familiar to the class.

Obtrusive biases are difficult to detect during actual classroom observation. This is because, on the one hand, they are confounded with coding biases and, on the other hand, checks for them usually can be expected to induce some obtrusive effects of their own.

No specific checks were made for obtrusive biases. However, it is possible to make a reasonable prediction of the direction of these biases. The general effect of any classroom observer is usually to put both the teacher and the students on good behavior. The teacher tries to fulfill what is generally considered characteristic of good teachers: in control of the class, well organized, involving the students, and supportive of their efforts. The fact that the observers in this study were known to the teacher to be from a civil rights agency and the fact that some of them were obviously minority group members must certainly have induced some teachers to be particularly careful about how they related to minority students in the classroom. Consequently the observed unfavorable disparities between Mexican Americans and Anglo students are probably somewhat less severe than the disparities that normally occur in the classroom.

Possible Sampling Biases

There is no way to totally assure against sampling bias, but adherence to statistically sound sampling procedures does allow one to limit the probability of a significant sampling bias to a given value. The sampling procedure used in this study has been discussed. (See Appendix A, pp. 45-47.) These procedures followed or approximated the sampling procedures necessary for valid statistical inference. The probability of sampling bias in this study is one in a hundred for each tested hypothesis. It should be noted that this probability of error is in reference only to inferences about the specific population from which the sample was drawn.

APPENDIX F. TEACHER, STUDENT, AND CLASSROOM CHARACTERISTICS INFORMATION FORM

School and District No. _____ Date _____

Access No. _____ Interviewers initials _____

District Name _____ School Name _____

Teacher Name _____ AG _____

Classroom No. _____ Grade _____ Period _____

1. Use the space on page T.2 as follows:
   a. On the seating chart on the following page, record the seating patterns in the classroom. In each block record:
      NS—No seat
      NO—Not occupied
      M—Mexican American
      A—Anglo
      B—Black
      O—Other
   b. Draw the teacher's desk, if one is present. [T]
   c. If 50% or more of the children face in one direction, indicate the focal point. ⊕
   d. Draw any seats occupied by isolated children outside the main body, and indicate (M, A, B, O) the ethnicity of the child in that seat. (B)
   e. Draw any windows.
   f. If any of the items called for in directions b - e are not present, indicate this fact by drawing a line through that direction.

2. Ask the teacher: Please tell me what college degree or degrees you hold. Record the answer below.

Doctorate	Masters	Bachelors	None

3. Ask the teacher: Have you had any in-service courses dealing with the education of the Mexican American child in relation to his cultural and linguistic differences? If so, describe.

Yes	No

4. Ask the teacher the following question. Record the answers in the grid below:

   Please help me to identify the ethnicity of the children in the room today. How many children in the room are Mexican American, Anglo, Black, or of other ethnic background? You should use "other" for children of Oriental or American Indian background.

	Your Classification	Teacher's Classification
MA		
A		
B		
O		
T		

5. Ask the teacher: How do you decide where each child will sit? Record the answer below:

_____

_____

_____

6. Indicate the ethnicity of the teacher in the space below.

MA	A	B	O

7. Indicate the age of the teacher in the space below.

20's	30's	40's	50's	60's

8. Indicate the sex of the teacher in the space below.

M	F

SEATING CHART

APPENDIX G. SOCIOECONOMIC STATUS OF FAMILIES BY ETHNIC GROUP COLLECTION FORM

U.S. Commission on Civil Rights
Field Study Supplement

District: _____

School: _____

Address: _____

Contact Person: _____

Address: _____

Phone No.: _____

1. What percent of the Spanish Surnamed pupils in this school come from families with a total annual income of: (Estimate.)

   A. Below $3,000?_____ B. Over $10,000?_____

2. What percent of the Anglo pupils in this school come from families with a total annual income of: (Estimate.)

   A. Below $3,000?_____ B. Over $10,000?_____

3. What percent of Black pupils in this school come from families with a total annual income of: (Estimate.)

   A. Below $3,000?_____ B. Over $10,000?_____

4. What percent of the Other pupils in this school come from families with a total annual income of: (Estimate.)

   A. Below $3,000?_____ B. Over $10,000?_____

5. What percent of the Spanish Surnamed pupils in this school come from families in which the highest educational attainment level of the head of the household is: (Estimate.)

   A. 0-8 years? _____%
   B. High School? _____%
   C. College? _____%
   D. Total 100 %

6. What percent of the Anglo pupils in this school come from families in which the highest educational attainment level of the head of the household is: (Estimate.)

   A. 0-8 years? _____%
   B. High School? _____%
   C. College? _____%
   D. Total 100 %

7. What percent of the Black pupils in this school come from families in which the highest educational attainment level of the head of the household is: (Estimate.)

   A. 0-8 years? _____%
   B. High School? _____%
   C. College? _____%
   D. Total 100 %

8. What percent of the Other pupil in this school come from families in which the highest educational attainment level of the head of the household is: (Estimate.)

   A. 0-8 years? _____%
   B. High School? _____%
   C. College? _____%
   D. Total 100 %

APPENDIX H. DISPLAY TABLES

H-1 Percent of Total Variance of the Bivariate Relationship for those Pairs of Teacher, Classroom, and School Characteristics which had a Statistically Significant Relationship[1, 2]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. grade																					
2. track	2.83																				
3. subject	3.57																				
4. teacher education	4.54																				
5. teacher inservice training																					
6. teacher ethnicity																					
7. teacher age	2.99			3.99																	
8. teacher sex	8.00																				
9. seating criterion	9.87					3.68	2.40	4.34													
10. school % MA	3.15	2.62				3.48	2.15	2.90													
11. school % A	3.06	2.52				4.53	2.93	3.10		81.32											
12. MA seating index																					
13. A seating index												6.54									
14. class % MA		4.53				2.53				30.64	33.87										
15. class % A		4.47				3.40	2.35			32.25	39.19		2.47	56.55							
16. class size																					
17. ethnic isolation in school	9.72	8.45				4.84				6.07	6.02			2.49	5.15						
18. school MA SES	11.84		4.99			3.08	2.22	4.63		23.54	26.59			10.95	12.28		9.43				
19. school A SES	4.18	2.07	2.77			1.78	2.13		4.37	22.62	23.66			8.50	9.32		1.66	20.73			
20. school avg. SES	14.26					2.88		7.46	3.18	47.63	47.69			18.23	19.07	2.03	6.76	44.69	28.59		
21. state		4.24	3.37			2.73	3.44	7.40	3.04	1.88	1.84						13.17	15.66	4.94	8.54	

[1] Tested by Chi Sq Test.
[2] One of the 22 characteristics, the difference in the Chicano and Anglo average SES, was not included in this analysis.

H-2 Standard Deviations of Disparities in Behaviors Within Classrooms Between the Average Individual Mexican American and the Average Individual Anglo

	Standard Deviation		*Standard Deviation*
Teacher acceptance of students' feelings	.048	Teacher giving of directions	.420
Teacher praise or encouragement	.344	Teacher criticizing or justifying authority	.223
Teacher acceptance or use of students' ideas	.393	Student response speaking	1.839
Teacher questioning	.955	Student initiated speaking	2.961
Teacher lecturing	1.393	Teacher giving of positive feedback	.649
		All noncriticizing teacher talk	2.420
		All student speaking	3.514

H-3 All Pairwise Correlations for the Measures of Behavior Disparities Within Classrooms[1]

	1	2	3	4	5	6	7	8	9	10	11
1. Teacher acceptance of students' feelings											
2. Teacher praise or encouragement	.05										
3. Teacher acceptance or use of students' ideas	—.01	.54									
4. Teacher questioning	.06	.59	.58								
5. Teacher lecturing	.10	.21	.15	.29							
6. Teacher giving of directions	—.03	.10	.09	.15	.21						
7. Teacher criticizing	.01	.01	—.04	.02	.05	.12					
8. Student response speaking	.04	.15	.19	.30	.16	.12	—.00				
9. Student initiated speaking	.04	.15	.14	.13	.15	.07	.06	.02			
10. All positive feedback from teacher	.10	.86	.89	.67	.21	.11	—.02	.20	.17		
11. All noncriticizing teacher talk	.10	.60	.57	.77	.78	.38	.05	.28	.20	.67	
12. All student speaking	.05	.20	.22	.27	.21	.12	.05	.54	.85	.24	.31

[1] Reported statistics are Pearson correlation coefficients